

PEARSON EDEXCEL INTERNATIONAL A LEVEL

# PSYCHOLOGY

Student Book 2

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#### **Acknowledgements**

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# ABOUT THIS BOOK

This book is written for students following the Edexcel International Advanced Level (IAL) Psychology specification. It covers the second year of the international A level qualification (A level).

The book has been carefully structured to match the order of topics in the specification although teaching and learning can take place in any order, both in the classroom and in any independent learning. This book is organised into two units (Unit 3: Applications of psychology and Unit 4: Clinical psychology and Psychological skills).

Each topic is divided into chapters to break the content down into manageable chunks. Each chapter begins

by listing the key learning objectives and includes a getting started activity to introduce the concepts. There is a mix of learning points and activities throughout. Checkpoint questions at the end of chapters help assess understanding of the key learning objective.

The content for Unit 3 is applicable for Paper 3 (Applications of psychology) and the content for Unit 4 is applicable for Paper 4 (Clinical psychology and Psychological skills). Knowing how to apply learning to both of these papers will be critical for exam success. There are exam practice questions at the end of each chapter to provide opportunity for exam practice. Answers are provided in the online teaching resource pack.

## Topic opener

Introduce each of the key topics within each unit of the specification.

## Learning objectives

Each chapter starts with a list of key assessment objectives.

**UNIT 3 APPLICATIONS OF PSYCHOLOGY**

**TOPIC E  
DEVELOPMENTAL  
PSYCHOLOGY**

Developmental psychology is about how and why people's behaviour changes as they go through different life stages, including before birth, infancy, childhood, adolescence, adulthood and old age. Some changes are biological, but others result from experiences such as parental care, interactions and play with siblings and friends, and access to carefully planned interventions. In this topic, you will learn how psychologists investigate links between infancy and future development. We begin by considering the first relationships babies form when entering the world. Many psychologists believe that these attachments are of critical importance. Others think greater attention should be paid to experiences throughout the lifespan, all of which can support or disrupt our ability to live a long and meaningful life.

## TOPIC E DEVELOPMENTAL PSYCHOLOGY

### CHAPTER 1 ATTACHMENT, DEPRIVATION AND PRIVATION

#### LEARNING OBJECTIVES

- By the end of this chapter you should be able to:
- describe and evaluate theories of attachment, including:
  - learning theories
  - O'Connor et al.'s (2013) study on social learning, parenting and attachment
- describe and evaluate Bowlby's maternal deprivation hypothesis and theory of attachment, including:
  - the 44 Juvenile Thieves study (1948)
- describe and evaluate Ainsworth's work on attachment, including:
  - types of attachment and caregiver sensitivity
  - cross-cultural research into attachment types
  - the Strange Situation Procedure

#### KEY TERM

**social interaction:** communication both verbal and non-verbal between individuals in a social context; relies on shared understanding

#### THINKING LIKE A PSYCHOLOGIST

Before reading any further, think about your own childhood and the people who were important to you when you were growing up. Many children are cared for by people who are not their biological parents. This includes siblings or grandparents, step-parents, foster and adoptive parents, and/or legal guardians and carers. Most children grow up in relatively formal environments, such as in the care of a single parent or in a residential setting, while others live in larger group settings such as children's homes and institutions such as orphanages. In some cultures, many community members are involved in looking after babies and children. As you read this chapter, think about how well the research explores the diverse experiences of all children and young people, not just the most common living arrangements in the psychologist's own culture.



## Getting started

An introduction to the chapter, letting you think about the concepts you will be introduced to. Questions are designed to stimulate discussion and use of prior knowledge. These can be tackled as individuals, pairs, groups or the whole class.

## Activity

Each chapter includes activities to embed understanding through case studies and questions.

## **Wider issues and debates**

These sections focus on the issues and debates outlined in Unit 4 of the specification. They are included in each of the topic areas and are designed to highlight the issues facing psychology today.

#### **Exam tip**

Tips give practical advice and guidance for exam preparation.

## Skills

Relevant questions and activities have been assigned key skills, allowing for a strong focus on particular academic qualities. These transferable skills are highly valued in further study and the workplace.

## Thinking like a psychologist

These sections provide opportunity to explore an aspect of psychology in more detail to deepen understanding.

## Key terms

**Key terms**  
Key subject terms are colour coded within the main text and a definition is provided.

### Exam practice

**Exam practice**  
Exam-style questions are found regularly throughout. They are tailored to the Pearson Edexcel specification to allow for practice and development of exam writing technique.

### Checkpoint

### **Checkpoint**

# SPECIFICATION COVERAGE

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Chapter 5: Methods	5.3.1–5.3.5
Chapter 6: Issues	5.4.1–5.4.3
TOPIC F: CRIMINOLOGICAL PSYCHOLOGY	SPECIFICATION POINTS COVERED
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Chapter 8: Understanding the offender	6.1.2–6.1.3
Chapter 9: Factors influencing the identification of offenders	6.1.4
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Chapter 11: Treatment	6.1.6
Chapter 12: Studies	6.2.1–6.2.4
Chapter 13: Methods	6.3.1–6.3.4
TOPIC G: HEALTH PSYCHOLOGY	SPECIFICATION POINTS COVERED
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Chapter 18: Studies	7.2.1–7.2.4
Chapter 19: Methods	7.3.1–7.3.4

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Chapter 21: Schizophrenia	8.1.4, 8.1.6
Chapter 22: One other mental health disorder; unipolar depression	8.1.5, 8.1.7
Chapter 23: Anorexia nervosa	8.1.5, 8.1.7
Chapter 24: Studies	8.2.1–8.2.6
Chapter 25: Methods	8.3.1–8.3.5
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Chapter 28: Key questions in society	9.2.1
Chapter 29: Issues and debates	9.3.1–9.3.11

# ASSESSMENT OVERVIEW

The following tables give an overview of the assessment for this course. You should study this information closely to help ensure that you are fully prepared for this course and know exactly what to expect in each part of the assessment.

Paper 3	Percentage of IAS	Percentage of IAL	Mark	Time	Availability	Structure
Applications of psychology Paper code: WPS03/01	40%	20%	64	1 hour and 30 minutes	January and June	<p>Candidates must answer all questions from Section A and all questions from a choice of two topic areas in Section B.</p> <p>Section A: Developmental psychology, totals 32 marks and comprises short-answer questions and two eight-mark extended open-response question. One eight-mark question focuses on Developmental psychology and one eight-mark synoptic question is based on Developmental psychology and issues from Units 1 and 2.</p> <p>Section B: presents candidates with a choice of one from either criminological or health psychology. Each section totals 32 marks and comprises short-answer questions and two eight-mark extended open-response questions.</p>

Paper 4	Percentage of IAS	Percentage of IAL	Mark	Time	Availability	Structure
Clinical psychology and psychological skills  Paper code: WPS04/01	60%	30%	96	2 hours	January and June	<p>Candidates must answer all questions from five sections.</p> <p>Section A: Clinical psychology, totals 32 marks and comprises short-answer questions.</p> <p>Section B: Clinical psychology, comprises one 16-mark extended open-response question.</p> <p>Section C: Psychological skills, totals 20 marks and comprises short-answer questions drawing on research methods from other topic areas (except Topics F and G).</p> <p>Section D: Psychological skills, comprises one eight-mark extended open-response question based on the analysis of a key question from other topic areas (except Topics F and G).</p> <p>Section E: Psychological skills, comprises one 20-mark synoptic question based on issues and debates from other topic areas (except Topics F and G).</p>

# INTRODUCTION

Welcome to the second year of your International A Level course in Psychology and congratulations on all that you have achieved so far!

In year one you learned about four different areas of psychology; social, cognitive, biological and learning theories and development. You will have covered numerous theories, concepts, studies, research methods and ways of analysing data, both quantitative and qualitative, including conducting four practical investigations of your own. An extraordinary amount of learning has happened already, but hopefully this will give you just the foundation you need to really thrive in your second year!

Psychology is about constructing and reconstructing knowledge and we all have a role to play in ensuring that the psychology of the future strives to explain the diversity of human experiences around the world. As you embark on the second year topics, we hope that you will start to grow in confidence and use everything you have learnt so far to challenge and question the ideas that are presented, identifying biases and assumptions and exposing scientific shortcomings. Thinking critically is key, so be sure to invest sufficient time to improve your evaluative vocabulary.

To help you in your studies, try to set some time aside each week to consolidate new learning through completing practice questions but also through carrying out your own further research. Thousands of new studies are published every week and reading summaries of these will help you to apply your knowledge and deepen your understanding.

Whether you decide to take your studies in psychology further or not, we hope that the skills that you develop and refine throughout the two years of this course will equip you to excel in your future personal and professional lives!

Good luck everyone!

Mandy and Karren

# TOPIC E DEVELOPMENTAL PSYCHOLOGY



Developmental psychology is about how and why people's behaviour changes as they go through different life stages, including before birth, infancy, childhood, adolescence, adulthood and old age. Some changes are biological, but others result from experiences such as parental care, interactions and play with siblings and friends, and access to carefully planned interventions.

In this topic, you will learn how psychologists investigate links between infancy and future development. We begin by considering the first relationships babies form when entering the world. Many psychologists believe that these attachments are of critical importance. Others think greater attention should be paid to experiences throughout the lifespan, all of which can support or disrupt our ability to live a long and meaningful life.

# CHAPTER 1 ATTACHMENT, DEPRIVATION AND PRIVATION

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate theories of attachment, including:
  - learning theories
  - O'Connor et al.'s (2013) study on social learning, parenting and attachment
- describe and evaluate Bowlby's maternal deprivation hypothesis and theory of attachment, including:
  - the 44 Juvenile Thieves study (1944)
- describe and evaluate Ainsworth's work on attachment, including:
  - types of attachment and caregiver sensitivity
  - cross-cultural research into attachment types
  - the Strange Situation Procedure.

## GETTING STARTED

During the pandemic, parents and carers faced an unusually challenging time. Anxieties about health, reduced **social interaction** and support, and lack of access to parenting groups and health and social care professionals may all have affected the way parents related to their babies. In this chapter, you will learn that these early relationships or attachments are thought to provide a template for all future relationships.

- What might this mean for society when the 'lockdown babies' become parents and carers themselves?
- Can you think of any reasons that the babies from this generation might have better relationships with their parents and carers than babies born under more typical circumstances?

## KEY TERM

### **social interaction:**

communication both verbal and non-verbal between individuals in a social context; relies on shared understanding

## THINKING LIKE A PSYCHOLOGIST

Before reading any further, think about your own childhood and the people who were important to you when you were growing up. Many children are cared for by people who are not their biological parents. This includes siblings or grandparents, step-parents, foster and adoptive parents and/or legal guardians and carers. Most children grow up in relatively small family groups in private homes, some are cared for by nannies and other domestic assistants, while others live in larger group settings such as children's homes and institutions such as orphanages. In some cultures, many community members are involved in looking after the babies and children. As you read this chapter, think about how well the research explains the diverse experiences of all children and young people, not just the most common living arrangements in the psychologist's own culture.

Global lockdowns during the COVID-19 pandemic meant families faced unusual circumstances – the full impact is yet to be revealed but may not be all bad.



**KEY TERM**

**attachment:** a close, emotional, enduring bond between child and caregiver (noun); the process by which these bonds are formed (verb)

**THEORIES OF ATTACHMENT**

**Attachment** is the gradual process through which strong, enduring, emotional bonds are formed between infants and their caregivers. We begin by exploring reasons how and why attachments are formed.

**WIDER ISSUES AND DEBATES****The role of nature and nurture**

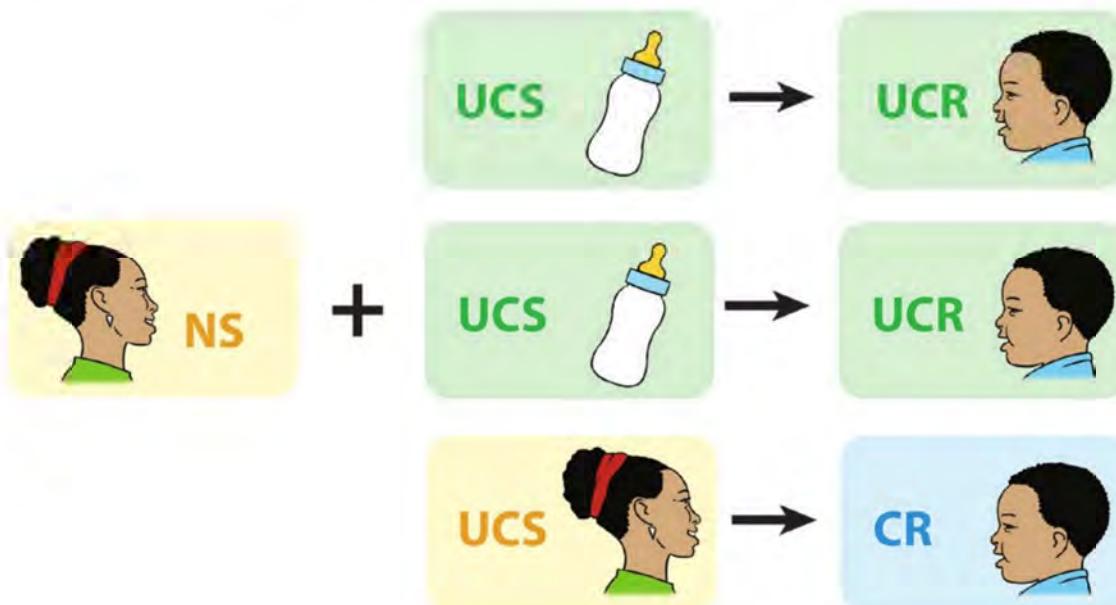
Early explanations of attachment were based on learning theories. They suggest that attachment results from experience (nurture) and learned associations between the mother and food. However, John Bowlby proposed that attachment is innate (nature), meaning infants and their caregivers are biologically predisposed to form attachments (see pages 7–10). Although Bowlby's theory is more about nature than nurture, can you think of any features of the theory that are linked more to experience than biology?

**LEARNING THEORIES****LINK**

In Student Book 1, you studied classical conditioning, operant conditioning and social learning theory. You may wish to refresh your memory of the key vocabulary from this topic before reading any further (see pages 228–244).

**Classical conditioning**

Food is an unconditioned stimulus. It triggers an involuntary salivation response and feelings of pleasure. These are unconditioned responses (UCR). Babies quickly learn to associate the person who provides their food (the neutral stimulus – NS) with the food itself (the unconditioned stimulus – UCS). After a few feeds, the baby begins to feel happy (a conditioned response – CR) simply at the sight of their caregiver. This person has become a conditioned stimulus (CS). Soon the baby will show attachment behaviours towards their caregiver, all because they have become associated with the feelings of contentment that arise when hunger is satisfied.



► Figure 1.1 Classical conditioning applied to attachment; the baby feels happy when he drinks his milk, he soon begins to associate his mother with the happiness he feels when drinking his milk, over time he begins to feel happy whenever he sees his mother even in the absence of milk.

**KEY TERMS**

**drive reduction:** the process of fulfilling a biological need (drive state) to decrease discomfort or tension

**drive state:** a biological condition, like hunger or thirst, that motivates an organism to take action to satisfy the need

**meta-analysis:** a quantitative technique for combining the results of multiple studies; often conducted to make sense of areas of research in which there are conflicting results. The analysis involves calculating an overall effect size

**responsiveness:** a caregiver's ability to quickly and sensitively react to an infant's attempts to communicate their needs

**secondary drive:** a learned association between a neutral stimulus (NS) and the satisfaction of a primary biological need, which creates a new motivation

**Operant conditioning**

Dollard and Miller (1950) describe hunger as a **drive state**, meaning an uncomfortable feeling that babies (and the rest of us!) want to reduce. In operant conditioning, feeding a hungry baby is an example of **drive reduction**. It leads the baby to feel comfortable. This is also an example of negative reinforcement. Food is rewarding because it reduces the unpleasant feeling of hunger. Any behaviours the baby does before the food arrives, for example crying, become more likely as they become associated with the arrival of food. This is an example of positive reinforcement.

Milk/food is a primary reinforcer as it meets the baby's needs. The caregiver is a secondary reinforcer because the baby learns to associate them with the arrival of food. Over time, the baby develops a **secondary drive** for the caregiver. Babies then show learned behaviours which have become associated with his or her arrival. Gradually, they are learning to seek the attention of the person who is most likely to feed them!

**Social learning theory**

Dole Hay and Jo Vespo (1988) explain attachment using social learning theory. When parents model affectionate behaviours, infants imitate them. Parents also provide direct instruction by encouraging children to share attention, for example looking at picture books, and to reciprocate in turn-taking games. Attachment behaviours can also be learned by identifying with and imitating older siblings. Also, parents can be taught positive parenting strategies using observation and imitation (see O'Connor et al., 2013, page 5).

**Evaluation**

A recent **meta-analysis** showed that 57 per cent of studies on breastfeeding and attachment found a positive correlation between how long mothers breastfed their babies and security of attachment (Linde et al., 2020). However, feeding may be linked to attachment for reasons that are unrelated to food. Breastfeeding triggers the release of oxytocin, a hormone which promotes bonding (Jansen et al., 2008). This means feeding behaviour may enhance attachment for hormonal reasons, reducing the credibility of learning theories of attachment.

**LINK**

For more on meta-analyses, see page 78.

**THINKING LIKE A PSYCHOLOGIST**

Why not carry out some research of your own into attitudes towards breastfeeding and bottle feeding? This is a controversial area as it affects people's decision making about feeding their babies. It also has an economic impact in terms of sales of baby milk. You could create a questionnaire using open and closed questions (such as ranked scale questions) and present an analysis of your findings. You could also consider investigating differences in attitudes between people from different cultures.

Practical applications of the learning theories include interventions to improve attachment quality. For example, Guy Bosmans et al. (2022) tested programmes based on classical and operant conditioning to build children's confidence in the availability and **responsiveness** of their caregivers. The effectiveness of these programmes not only benefits the families but also demonstrates that attachments are shaped by learning experiences.

## WIDER ISSUES AND DEBATES

### Reductionism versus holism

Learning theories are reductionist. They do not explain attachments to people who do not provide food. Rudolph Schaffer and Peggy Emerson (1964) found that 39 per cent of infants were attached to someone who did not meet their primary needs (for example, feeding and bathing). Also, Harlow and Zimmerman (1959) (see page 8) showed that baby monkeys preferred a wire model that provided comfort to one that provided food, especially when frightened (see page 9). These studies suggest that meeting an infant's social, cognitive and emotional needs through play, reassurance and affection may also lead to the development of attachments.

## KEY TERMS

**internal working model:** a cognitive schema or template, developed in infancy, which guides our expectations about future relationships

**randomised control trial:** an experimental design used in clinical trials to test the efficacy of new treatments and interventions; participants are randomly allocated to the experimental group, who receive the new treatment or a control group who either receive a placebo/sham treatment or standard treatment

## O'CONNOR ET AL. (2013) SOCIAL LEARNING, PARENTING AND ATTACHMENT

### Aim

To investigate whether a parenting programme based on social learning theory can improve sensitivity, a variable not directly targeted in the programme. The researchers also examined whether the programme would affect the children's **internal working model**.

### LINK

For more on the internal working model, see page 10.

### Method or design

**Randomised control trial** conducted over a three-year period; classes of four- to six-year-old children were randomly allocated to a 12-week parenting programme called Incredible Years (Webster-Stratton, 1984) and either a six-week reading (literacy) intervention ( $n = 88$ ) or a non-intervention control group ( $n = 86$ ).

### Sample

233 families were invited to take part. The children all attended one of four schools in a low-income, ethnically diverse, inner-city area of London, UK. Approximately 25 per cent were at high risk of conduct or oppositional defiant disorder. The researchers ensured a good mix of families by randomly selecting high- to low-risk families on a ratio of 2:1. 174 families agreed to participate, 36 per cent with high-risk children and 64 per cent with low-risk children.

### Procedure

#### The parenting and literacy programmes

The parents/caregivers watched and discussed videos of ethnically diverse parents and children. The parents' behaviour either made the child calm and obedient or sad and angry. Parenting behaviours which led to positive outcomes were emphasised. Participants role-played these behaviours and practised them at home. Participants were encouraged to discuss their child's reading book and play rhyming games together. They were also taught strategies to help their child read new words. Group leaders telephoned the families each week to discuss their progress.

#### Home observations

Three-part observations (see Figures 1.2 to 1.4) were filmed in the family homes, before and after the programme and six months later.

► Figure 1.2 Free play  
 (10 minutes): The same sets of toys were provided for each observation and the researcher used the same standardised instruction to 'play as you normally would.'



▲ Figure 1.3 Assembling a difficult model from building bricks using a picture (10 minutes): Parents were not allowed to touch the bricks. They were only allowed to give verbal instructions to the child.



▲ Figure 1.4 Tidying up the toys (5 minutes): Parents were told, 'We'd like you to get your child to tidy up the toys before we move on.'

## KEY TERMS

**mutuality:** the extent to which the parent and child accept and seek the other's involvement in a joint activity, work together, give and receive affection and maintain proximity

**sensitive responding:** the extent to which the parent shows emotional warmth, awareness of the child's needs and understands their point of view

They counted examples of positive parenting behaviours (for example, praise) and negative parenting behaviours (for example, criticism). They also measured **sensitive responding** and **mutuality** on seven-point Likert scales (see Student Book 1, page 37).

### LINK

O'Connor et al. used observation in their randomised control trial. Refresh your memory of different types of observation using Student Book 1, pages 258–261.

- Were the observations in O'Connor et al. participant or non-participant, covert or overt, naturalistic or controlled, structured or unstructured?
- Were they using time sampling or event sampling?

### Internal working model assessment

Attachment type (see page 8) was measured using the Manchester Child Attachment Story Task (Green, Stanley, Smith & Goldwyn, 2000). Assessment took place at the schools. Dolls were used to help the children to discuss four scenarios (having a nightmare, hurting your knee, feeling ill or getting lost).

### Results

Participants in the parenting programme showed more positive parenting behaviours and were more sensitive to their children's needs after the intervention than the control group. However, this was only true in the unstructured activities (free play and tidy up). Children in the intervention group showed no significant change in attachment style. There were no gender or ethnicity differences in the effectiveness of the programme.

## Conclusion

Parenting programmes based on social learning theory are effective in promoting positive changes in parents' behaviour.

### EXAM TIP

Beware of one-mark questions. You might be tempted to just write a few words, but this is rarely enough. A detailed sentence will give you a better chance of gaining the mark. Always make sure every aspect of the sentence is clear. For example, if you were asked about the study by O'Connor et al., don't just say a 'parenting programme', try to describe it. What did the programme involve?

## Evaluation

The study used a single-blind design, meaning the observers did not know whether the parents had been part of the parenting programme or not. This increased internal validity by reducing observer bias, for example, coding the parents' behaviour as more positive and sensitive if they knew they had been part of the parenting programme. Also, coding drift was avoided by continually training the observers throughout the process to ensure that positive and negative parenting behaviours were consistently classified in the same way. This made the data more reliable.

The average number of intervention sessions was very low (five out of 18, with a median of two) so the findings may not be valid. Many of the intervention group parents attended so few sessions that they may not have retained the information from the parenting videos and therefore were unlikely to imitate this at home. Also, the parenting programme was attended by very few fathers and/or grandparents and all of the children were neurotypical. This means increases in positive parenting during free play and tidy up time may only be generalisable to mothers and neurotypical children.

Finally, only 152 of the original 174 families were available for the follow-up observations; so, the long-term effects of the programme could not be measured for all families. This is a problem because the families that remained in the study may not be representative of the target population, which means the positive outcomes relating to parental sensitivity may not be generalisable.

This study benefits society as the researchers showed that despite shortening the Incredible Years programme by ten weeks, it still proved (and can prove) effective. This makes the programme cheaper and also means more families can participate.

## BOWLBY'S THEORY OF ATTACHMENT

During the 1930s, **psychiatrist** John Bowlby (1907–1990) worked at The Tavistock Clinic, a famous **child guidance clinic** in London, UK. He wrote many books and articles about maternal care in infancy and how this influences mental health. He believed that some aspects of attachment are influenced by early experiences (nurture), but also believed that infants and their caregivers are biologically programmed to attach (nature).

## Evolutionary theory

Bowlby believed that attachment is innate. He believed that in the **evolutionary environment of adaptedness**, bonding helped infants survive to reproductive age. Maintaining close proximity with a protective adult decreased risks from predators and other threats. He used the term **social releasers** to refer to behaviours that trigger caregiving responses from adults such as eye contact, crying, grasping and smiling. Individuals who inherited these behavioural tendencies were more likely to survive, reproduce and pass their traits onto their offspring. Gradually, individuals who showed innate attachment behaviours outnumbered individuals without the predisposition to attach.

## KEY TERMS

**child guidance clinics:** centres offering support, information and therapy to families of children experiencing mental health and/or behavioural issues

**evolutionary environment of adaptedness:** the ancient, imagined environment in which our early human ancestors evolved physical and behavioural traits, which allowed them to survive, and are shared with modern humans

**psychiatrist:** medically trained doctor specialising in the diagnosis, treatment and prevention of mental and behavioural disorders

**social releasers:** innate behaviours that lead to caregiving responses from others, for example, crying, smiling, making eye contact

## Phases of attachment

Bowlby described four phases in the development of attachment (see Table 1.1).

TABLE 1.1: THE FOUR PHASES OF ATTACHMENT

Phase	Name of phase	Age	Description
1	Preattachment	0–6 weeks	Babies behave in the same way towards everyone, including strangers. They seek attention by crying.
2	Attachment-in-the-making	6 weeks to 6–8 months	Babies show a preference for the person who is the most sensitive and responsive to their needs. They may smile more at this person.
3	Clear-cut attachment	6–8 months to 18–24 months	Infants show a strong preference for one specific attachment figure, usually but not always the <b>primary caregiver</b> . They may cry and become agitated when this person leaves the room. Strangers trigger extreme distress.
4	Reciprocal attachments	18–24 months +	Infants are capable of forming multiple secondary attachments, e.g. to other relatives, daycare providers. Infants and caregivers respond to each other, e.g. giving and receiving attention and affection. Separation distress and stranger fear are much reduced.

### KEY TERMS

**critical period:** limited time period during which certain experiences are crucial for normal development, especially in forming attachments

**ethologist:** a person who conducts scientific studies of animals in their natural environments

**imprinting:** rapid and lasting attachment to a specific object or person, often observed in animals shortly after birth

**primary caregiver:** when discussing a specific child, the primary caregiver is the person who looks after the child (for example, feeding, bathing, playing); they are also usually the child's primary attachment figure, but not always

**sensitive period:** flexible time period when environmental influences have a significant impact on development

## Imprinting

Bowlby was inspired by Konrad Lorenz's studies of goslings (baby geese) and their mothers. Immediately after the goslings hatched from their eggs, they instinctively followed the first moving object they saw. Lorenz called this **imprinting** (Lorenz, 1952). In the wild, goslings typically imprint onto the mother goose. To investigate this process, Lorenz randomly allocated goose eggs to two groups. After hatching, the goslings either saw their own mother or Lorenz and began to follow them. When the goslings were put back into one group, they continued to follow their original attachment figure leading Lorenz to conclude that imprinting may be irreversible, meaning it cannot be 'undone'.

Lorenz also noticed that imprinting typically occurs within 12–24 hours of hatching. If imprinting does not happen within 32 hours, goslings seem unable to imprint. This is an example of a **critical period** because lack of imprinting could mean the goslings are at risk and less likely to survive.

Bowlby applied the idea of critical periods to human infant attachment. He believed that failure to attach within the first three years of life may mean children become incapable of forming secure, lasting bonds. He called this the **sensitive period**.

## Safe base

Bowlby rejected the learning theories of attachment believing that complex emotional bonds could be explained by food alone. He was also inspired by experiments conducted by Harry Harlow and Robert Zimmerman (1959). Eight baby monkeys were put in a cage with two models that looked like female monkeys. One was made of wire and the other of cloth. The models acted as substitute mothers or surrogates. Four monkeys could feed from the wire surrogate but not from the cloth surrogate. The other four could feed from the cloth surrogate but not the wire surrogate. All the monkeys spent more time with the cloth surrogate regardless of whether it provided milk. They spent only two hours a day (or fewer) feeding from the wire surrogate.

► Lorenz was an Austrian ethologist who studied imprinting, a crucial behaviour for survival



Sometimes they leaned across and fed from the wire surrogate while clinging to the cloth surrogate (see Figure 1.5). They also preferred the cloth surrogate to a heated cushion and when a noisy toy was used to scare them, they ran to the cloth (but not the wire) surrogate and used it as a **safe base**.

**SKILLS**

CRITICAL THINKING, ANALYSIS

**KEY TERMS**

**monotropy:** a clear preference for one (mono) primary caregiver, leading the infant to seek proximity with this person (tropism)

**safe base:** a secure and reliable source of comfort and support; when an infant is close to their safe base, they will begin to explore their surroundings

**ACTIVITY 1**

Carry out a SWOT analysis (strengths, weaknesses, opportunities and threats) on the use of animal research as a way of investigating attachment in humans. Strengths and weaknesses could relate to practical, scientific or ethical issues (refresh your memory of ethical issues relating to animal research using Student Book 1, pages 266–268). Opportunities could be about how such research could benefit society and threats could be about possible negative outcomes for society.

**Monotropy**

Bowlby used the term **monotropy** to mean that by 7–12 months, the majority of infants will show a clear preference for one primary caregiver with whom they seek proximity/nearness. By 24 months infants may have multiple attachments (see Table 1.1, phase four), but Bowlby believed that these attachments are hierarchical (organised by level of importance), with the primary attachment figure (who is usually, but not always, the mother) at the top. The person at the top of this hierarchy has a special bond with the infant and the most intense attachment behaviours will be shown towards them, such as crying when they leave the room.



► Figure 1.5 Baby monkey leans across to feed from wire surrogate without leaving the cloth surrogate.

## WIDER ISSUES AND DEBATES

### Issues relating to socially sensitive research

Bowlby acknowledges that the biological mother may not be the primary attachment figure. However, he does argue that they would be the most likely to take this role due to hormonal changes following birth and during breastfeeding. Based on his theory, the public may develop negative attitudes towards working mothers due to their inability to provide consistent care for their infants and the potential damage this might do to the infant's future mental health and ability to form relationships. Mothers may feel guilty if they are unable to provide consistent care in the early years and this could affect their ability to bond with their children. For these reasons, Bowlby's theory is considered socially sensitive as it could be used to justify gender stereotypical attitudes in society.

## Internal working model

Bowlby believed that we store a memory of our early attachment experience called an internal working model. This memory provides a template for future relationships and includes basic guidelines about what we should expect from our relationships with other people. Infants who have experienced consistent, loving and sensitive caregiving will develop a positive internal working model. Romantic relationships are likely to be approached with optimism (positivity) and trust. Infants who experience inconsistent caregiving or who do not form attachment bonds within the sensitive period may develop a negative internal working model. They may find it difficult to show commitment in their future adult relationships. You will learn more about the links between security of attachment, the internal working model and the effect on future relationships on page 59 (Cassibba et al., 2013) and page 67 (Ding et al., 2014).

## Evaluation

Monotropy and the age at which multiple attachments are formed has been challenged by Rudolph Schaffer and Peggy Emerson (1964). In a sample of sixty 12-month-old Scottish babies, 29 per cent were attached to two or more people and 10 per cent had up to five attachments. By 18 months, only 13 per cent had just one attachment figure and 31 per cent had five or more. This suggests that some infants form multiple attachments at a much earlier age than Bowlby believed was possible. This said, Schaffer and Emerson's data does support the idea that the multiple attachments are hierarchically organised. The strongest signs of attachment were still shown towards one specific person.

The idea of an internal working model is supported by Cindy Hazan and Phillip Shaver (1987). A 'Love Quiz' was printed in a local newspaper. The quiz measured attitudes towards the participants' 'most important romantic relationship' and their parenting experiences. Based on their answers, the researchers categorised the participants into three 'adult attachment styles' (based on the research of Mary Ainsworth, see pages 15–16). There was a significant correlation between adult attachment styles and parenting experiences. Participants who recalled warmer and more sensitive parenting also experienced longer adult relationships and had a lower divorce rate than those who had fewer positive parenting memories. This supports Bowlby's idea that our first relationships form an internal working model that influences future relationships. However, this research is correlational. Differences in **temperament** may mean that some individuals find it easier to form reciprocal relationships than others (Kagan, 1984). Differences in adult relationships may result from the same temperamental differences (a biological factor) that affected their early attachments, reducing credibility of the internal working model (a cognitive factor).

## KEY TERM

**temperament:** biological aspects of personality that are observable in early life including energy levels, emotional responsiveness, willingness to explore and shyness

**KEY TERMS**

**affectionless psychopathy:** an inability to show normal affection, shame or sense of responsibility for one's actions

**depression:** a mood disorder characterised by prolonged periods of low mood, disruptions to appetite and sleep, indecisiveness, fatigue, lack of motivation and social withdrawal

**empathy:** ability to understand and feel the emotional states of other people

**foster care:** children who cannot live with their biological families are cared for in a private family home by foster carers

**maternal deprivation:** the absence of a person who can meet the infant's needs in a sensitive, responsive and loving way

**THE MATERNAL DEPRIVATION HYPOTHESIS**

Deprivation means the failure to meet a person's basic human needs. **Maternal deprivation** therefore refers to the absence of a person who can meet the infant's needs in a sensitive, responsive and loving way. Bowlby famously said that 'Mother-love in infancy and childhood is as important for mental health as vitamins and proteins for physical health' (Bowlby, 1952, page 158). Although he emphasises the role of the mother, reflecting the social norms of the UK in the 1950s, he was more concerned about the continuity of the care than the person who provided it.

Poor continuity (in the absence of high-quality substitute care) was thought to result in a variety of negative outcomes including restricted growth (Johnson & Gunnar, 2011), poor cognitive development (Goldfarb, 1943), antisocial behaviour, **depression** and **affectionless psychopathy** (Bowlby, 1944), a condition in which the child is unable to feel **empathy** for others and does not experience guilt or remorse for actions that harm other people.

Bowlby believed that disruptions (discontinuous care) within the first two and half years of life were most likely to result in long-term negative consequences but badly managed separations up to the age of five may still be harmful. This time was also referred to as a sensitive period. He believed that if attachment bonds are broken during this period, the damage may be irreversible.

**Evaluation**

Maternal deprivation hypothesis is supported by studies comparing the development of children raised in institutions with children living in **foster care**. For example, Goldfarb (1943) conducted a natural experiment with 30 infants separated from their biological mothers. Half went directly into foster families (average age 14 months). The other half went into institutions at four months, before moving to foster families when they were three years old. At ages 10 to 14, the institution group were less intelligent, had weaker social skills and were less capable of forming meaningful relationships with others compared with the foster care group. This suggests that the long-term problems observed in the institution group resulted from the lack of an emotionally available caregiver and not just because they were separated from the mother. This is further supported by the fact that the fostered children also faced early separation but because they went straight into loving homes, maternal deprivation and long-term negative effects were greatly reduced.

Despite much supporting evidence, Bowlby (1956) also found evidence against the maternal deprivation hypothesis. He studied 60 children who had experienced long-term separations (under the age of four) while recovering from tuberculosis in a long-stay hospital. Their physical needs were met but the nurses did not have time to provide high-quality substitute mothering. However, at ages seven and 14, there were fewer differences between the hospital group and a matched control group than Bowlby expected. At least half of the hospital group made positive social relationships in later childhood suggesting that maternal deprivation hypothesis may be exaggerated.

**THE 44 JUVENILE THIEVES (1944)****Aim**

To investigate the relationship between affectionless personality and prolonged separations in early childhood in a sample of juvenile (young) thieves.

**Method**

Clinical interviews.

**KEY TERMS**

**social worker:** a trained professional who supports individuals, families and communities facing problems that affect their wellbeing, for example, poverty or disability

**socioeconomic status (SES):** a measure that includes income, education and occupation, for example, manual versus professional; it is associated with access to resources and opportunities

**Sample**

An opportunity sample of 31 boys and 13 girls who had been referred to a child guidance clinic in London, UK, for stealing. Ages ranged from five to 17. Over half were aged under 11. They were of average to above-average intelligence. 50 per cent were stealing regularly. They were referred by their parents, schools and probation officers (professionals who support convicted offenders to prevent re-offending). They were compared with a matched control group of 44 children who attended the same clinic for emotional problems but not stealing. These children were of a similar age, intelligence and **socioeconomic status** as the thieving group.

**Procedure**

A psychologist observed the children's emotional state while taking an intelligence test. Clinical interviews were performed by a **social worker** who asked the mothers about the children's mental health. These professionals discussed their findings with Bowlby. He conducted one-hour clinical interviews, first with the children and then with their mothers. He added to the children's case notes following each clinic visit and also included information from their school reports (a type of secondary data).

**LINK**

Opportunity sampling, clinical interviews, secondary data is discussed on pages 73–83.

**Findings**

Bowlby described the 44 thieves as depressed (20 per cent), over-active (30 per cent) and affectionless (32 per cent). None of the control group were classified as affectionless (zero per cent). Significantly more thieves than non-thieves had experienced early, permanent or prolonged separations from their primary caregivers (39 per cent of the thieves and only 5 per cent of the non-thieves). Of the affectionless group, 86 per cent had experienced prolonged separations. This was only the case for 17 per cent of the non-affectionless children.

TABLE 1.2: A FREQUENCY TABLE TO SHOW THE NUMBER OF CHILDREN WHO HAD BEEN SEPARATED FROM THEIR BIOLOGICAL AND/OR FOSTER MOTHERS BEFORE THE AGE OF SIX IN THE THIEVING AND NON-THIEVING CONTROL GROUP

	Prolonged separations before age six	No prolonged separations before age six	Total
Thieves	17	27	44
Non-thieves	2	42	44
Total	19	69	88

**MATHS TIP**

In your exams, you might be asked which test would be appropriate to test the statistical significance of a set of findings. First, you need to think about whether the study is a correlation or an experiment. If it is an experiment, you need to decide on the experimental design. For example, Bowlby used an independent groups design (thieves versus non-thieves). Next, you need to think about the level of measurement of the data, for example, Bowlby collected nominal data (whether the children had experienced separations in early childhood or not). Once you have this information you can decide which test to use, for example, the correct test for Bowlby's data is a chi-squared.

**LINK**

Chi-squared tests were explored in Book 1, Topic D, Chapter 4.

**Conclusions**

Juvenile thieves with affectionless character traits including lack of empathy and guilt are likely to have experienced prolonged separations from primary caregivers in the early years.

## KEY TERMS

**callous-unemotional (CU) traits:**

uncaring; disregard for others' feelings; lack of empathy, guilt or remorse

**Conduct Disorder:**

children with this disorder repeatedly violate social and age-appropriate norms, including respect for the rights of other people; behaviours may include lying, stealing and fighting

**heritable:**

the extent to which physical or psychological traits can be transmitted from biological parents to their offspring via genes

**privatation:**

failure to form

an attachment within the critical period

**Reactive Attachment Disorder:**

children with this diagnosis do not seek or respond to comfort; they rarely show positive emotions, are limited in their social/emotional responsiveness to others and may be irritable, sad or fearful when interacting with caregivers

## WIDER ISSUES AND DEBATES

**Understanding how psychology has developed over time**

Bowlby used the term affectionless psychopathy to classify children at his clinic in the early 1940s. At this time, there was very little understanding of psychopathy in adults, and even less in children. Psychopathic personality traits, for example, lack of empathy and remorse, had recently been explored in a book called *The Mask of Sanity* by Hervey Cleckley (1941) but there was no reliable way of diagnosing psychopathy until a checklist was developed by Robert Hare 40 years later (Hare, 1980). Fifty years on, researchers identified a set of so-called **callous-unemotional (CU) traits**, which are measurable in children and may explain future psychopathy (Frick & Ellis, 1999). Research suggests that such traits are **heritable** but positive parenting can reduce the risk that these traits will be expressed (Moore et al., 2019). Today, Bowlby's 14 affectionless thieves may have been described as having **Conduct Disorder** with CU traits; however, those who experienced **privatation** may have been diagnosed with **Reactive Attachment Disorder** (APA, 2013) which is associated with extreme neglect. Read more about these disorders and compare them with Bowlby's original idea of affectionless psychopathy.

**LINK**

Conduct Disorder and Reactive Attachment Disorder are diagnoses listed in the DSM-5 (APA, 2013), a psychiatric classification system which is described in detail in Topic H, see page 266. Here you can also read about The International Classification of Disease (ICD 11) (2022) and other mental health classification systems used around the world including the Chinese Classification of Mental Disorders (CCMD-3).

**Evaluation**

Bowlby's study was longitudinal. The children visited the clinic many times to receive therapy. He was therefore able to add greater detail to their case histories as the weeks went by. This is a strength as it means that the character type classifications (for example, affectionless, depressed and overactive) were not based on a single meeting, thus increasing validity.

However, the classifications may have been subjective. Bowlby interviewed the children after receiving information from the social worker and the psychologist. This means the case histories and the character-type classifications may have been affected by researcher bias. Also, the questions he asked the mothers may have been affected by the data he collected when interviewing the children. These issues reduce the scientific status of his findings.

**LINK**

Read more about longitudinal studies and subjectivity on pages 76–77. You can also read more about the scientific status of psychology in Chapter 6.

A weakness is the small sample size (44 in each group) which included more boys than girls. Also all participants attended the same clinic in London, UK. The link between early separations, stealing and psychopathy may not be generalisable to girls and children in other areas of the UK, countries where separations may be more or less common, or regions where childcare is routinely shared between multiple caregivers.

Although Bowlby (1944) provides evidence to support the maternal deprivation hypothesis, 61 per cent (27/44) of the thieves had not experienced prolonged separations. This shows that we should be careful not to place too much emphasis on early childhood experiences as the cause of childhood criminality. The strongest link between separation and thieving is in those children who have developed an affectionless personality. This may depend more on why the separation occurred, for example, bereavement, family discord (Rutter, 1981) and the emotional attitude of the parents towards their children.

Despite his critics, Bowlby's research into maternal deprivation has made a positive contribution to society. Hospital procedures are now designed to minimise bond disruption between children and their caregivers through longer visiting hours and providing beds so that parents can stay with their children overnight. Awareness of the negative impact of group care has led to the closure of orphanages and children's homes in many countries, and children's services (for example, foster care) are now designed to prioritise continuity of high-quality care.

### PRIVATION

Michael Rutter argued that Bowlby did not distinguish between the effects of maternal deprivation and privation. He defines deprivation as the breaking of an attachment bond whereas privation refers to the absence of attachment (Rutter, 1981). For example, privation may result from severe neglect and/or abuse or poor-quality institutional care. Rutter argued that Bowlby's 44 Thieves may have suffered privation rather than deprivation. Some of them had lived with so many foster carers in their early years that they may never have had the opportunity to form long-lasting bonds. Rutter believed that the effects of privation may be more severe and long lasting than those of deprivation.

### Evaluation

Evidence to support the irreversible long-term effects of privation comes from longitudinal studies of children raised in Romanian orphanages in the 1990s. Michael Rutter and Edmund Sonuga-Barke (2007) studied the development of a random sample of 165 Romanian orphans. These infants had started life in very poor conditions before being adopted into British families. The researchers subdivided the orphans into two groups: infants adopted before or after six months of age. Aged 11, the children had made significant physical and cognitive gains. However, when compared with a random sample of 52 adopted children who had not experienced institutional care, those adopted after six months continued to experience significant problems, including overactivity and difficulties with social interaction and forming attachments. At age 15, these negative effects were still evident, suggesting that early privation can lead to long-term effects, although these are moderated by age at the time of adoption.

Some researchers argue that the effects of privation are reversible. For example, Jarmila Koluchová (1972) carried out a case on Andrei and Vanya, twins who had suffered years of extreme abuse and neglect. They were discovered aged six showing signs of privation including severe cognitive and language delays. However, after the boys were fostered by two very kind and loving sisters, their development was rapid. By age 20, both boys were in employment and in long-term romantic relationships (Koluchová, 1992). This suggests that not only were Bowlby's ideas about the critical period for attachment and the internal working model wrong, but so too is the claim that the long-term effects of privation are irreversible.

### SKILLS

COMMUNICATION, CREATIVITY,  
CRITICAL THINKING

### ACTIVITY 2

The case study of Andrei and Vanya suggests that the negative effects of privation can be reversed. But case study evidence has many weaknesses which reduces its scientific status. Write a letter to Professor Koluchová explaining why you think her evidence is flawed and may not be generalisable to other cases of privation. You may wish to research the case further before you start. Send your letter to a friend and ask them to reply as though they are Koluchová defending her findings. Your friend may wish to research other cases of privation where the negative effects have been overturned, for example the Bulldog Bank orphans (Freud & Dann, 1951), and use these findings to strengthen their argument.

## AINSWORTH'S WORK ON ATTACHMENT

Mary Ainsworth worked with Bowlby for several years. Her major contribution was the development of a standardised way to measure security of attachment and her identification of three different types of attachment:

- secure
- insecure-avoidant (also known as anxious-avoidant)
- insecure-resistant (also known as anxious-ambivalent).

## ETHNOGRAPHIC RESEARCH IN UGANDA

Initially, Ainsworth carried out ethnographic research in a village near Kampala in Uganda. In a nine-month longitudinal study, she observed mother-child interactions in 26 families in their own homes. She visited twice a month for two hours with a local social worker acting as an interpreter. She recorded detailed qualitative field notes about her naturalistic observations and the mothers' answers to her open questions about their relationship with the infants.

Ainsworth studied attachment behaviours including crying and smiling and bodily movements such as clapping and waving. She noticed that most babies gradually preferred their mothers over other people, but there were individual differences. Securely attached babies explored more with their mothers present and cried less. Insecure babies were fussier, cried even with their mothers present and explored less than secure babies.

She identified three factors affecting attachment security (Ainsworth, 1967):

- amount of care provided by the mothers
- amount of detail the mothers shared during the interviews
- enjoyment of breastfeeding.

## CAREGIVER SENSITIVITY

### KEY TERMS

**caregiving hypothesis:** sensitivity and responsiveness of the caregiver is associated with security of attachment in the infant

**caregiver sensitivity:** the extent to which a caregiver is able to pay attention to and interpret the infant's differing behavioural cues (signals)

**responsiveness:** a caregiver's ability to quickly and sensitively react to an infant's attempts to communicate their needs

Based on her research in Uganda, Ainsworth developed the **caregiving hypothesis** suggesting that attachment security depends on **caregiver sensitivity** and **responsiveness**. Ainsworth used these terms to refer to the extent to which the caregiver is able to 'read' the baby's different cries and facial expressions and respond appropriately. Caregivers who are able to meet their baby's needs quickly and effectively, for example, recognising the differences between cries for food, comfort or entertainment, are more likely to form secure attachments with their babies. Caregivers who find it difficult to read and respond to their babies' cues are more likely to form an insecure attachment.

## Evaluation

The results of the Strange Situation (see below) and naturalistic observations in the family homes, supports a significant correlation (.78) between attachment type and maternal sensitivity and responsiveness. However, replications have not shown such strong associations. A meta-analysis by Marianne de Wolff and Marinus van IJzendoorn (1997) found a correlation of only 0.24 for mothers and 0.13 for fathers, although some of the studies included only very short observations.

A replication of the Strange Situation (see below) conflicts with the caregiving hypothesis. Marina Fuertes et al. (2009) studied 48 Portuguese mothers and their infants. They found that in addition to maternal sensitivity and responsiveness, infant temperament in the first few months of life was also a significant predictor of attachment type at 12 months. Caregiving hypothesis is, therefore, not a complete explanation of attachment security.

**KEY TERM****structured observation:**

watching and recording behaviour in an artificial environment, where a situation is manipulated to encourage a behaviour

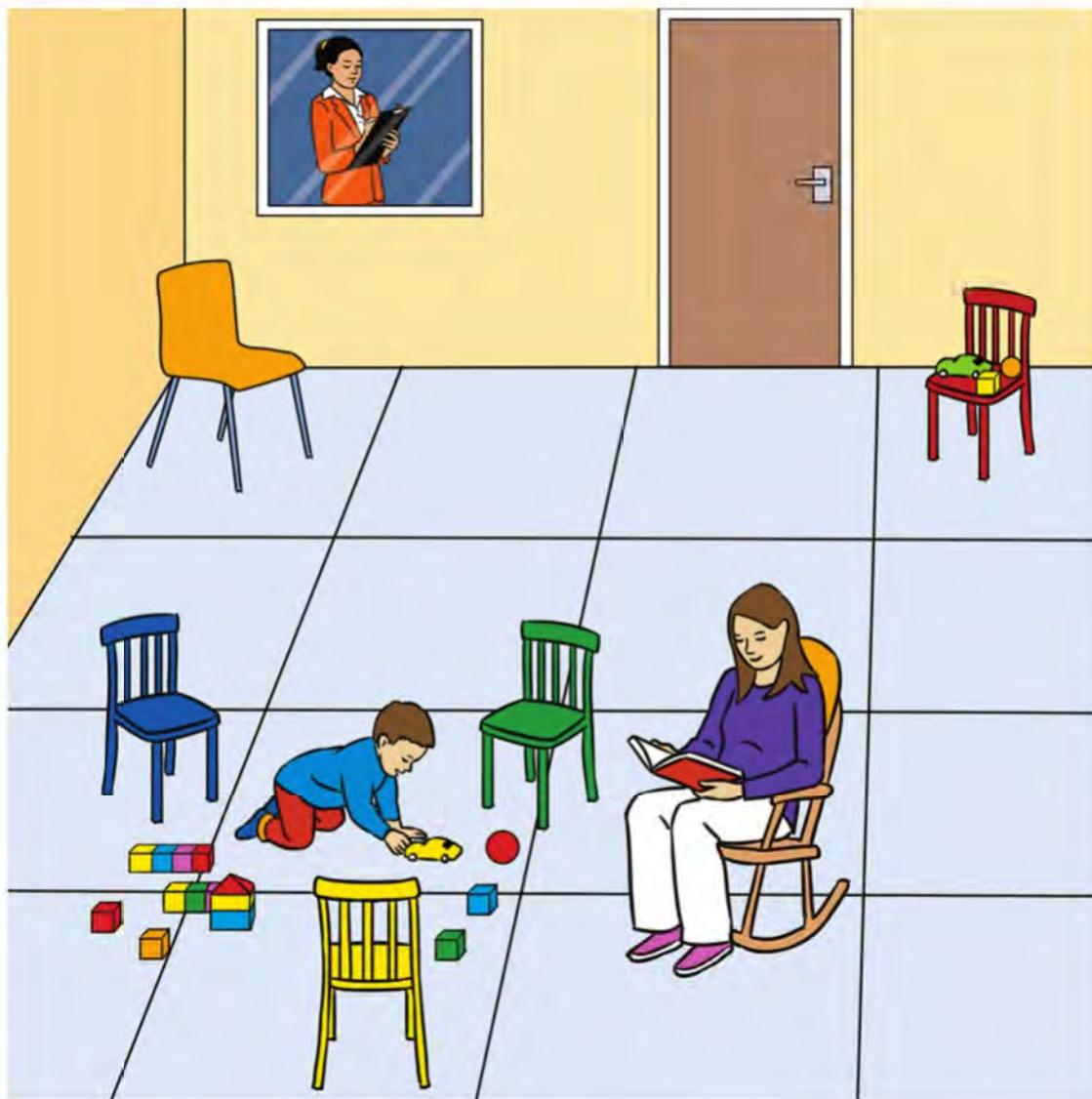
**LINK**

For more on structured observations, see page 17.

**THINKING LIKE A PSYCHOLOGIST**

Jerome Kagan (1984) believed that some infants are more adventurous and fearless, and others are more timid and fearful. He believed these differences were biological. How might these individual differences affect behaviour in the Strange Situation? If you were the parent of an infant classified as insecure-resistant, how might knowledge of temperament hypothesis affect your feelings as a parent?

In 1963, Mary Ainsworth began a second observational study in Baltimore, USA. Her participants were middle-class families recruited before their babies were born. She observed the parent-child interactions for four hours each month from the first few weeks of birth. She found additional evidence that sensitive-responsive parenting was associated with happier children who cried less. When the infants were 12 months old, Ainsworth invited the families to participate in a **structured observation**.

**THE STRANGE SITUATION**

► Figure 1.6 The 9 × 9-foot square laboratory was marked into 16 squares so that the baby's location and movement could be easily monitored and recorded.

**Aim**

To investigate individual differences in attachment between infants and their mothers, through observing infant behaviour in an unfamiliar environment with and without an unfamiliar adult.

**Method**

Structured observation (non-participant, controlled).

**Sample**

The initial pilot study included 23 middle-class American mothers and their infants. Other studies with slightly larger samples were ongoing as Ainsworth developed her procedure.

**Procedure**

The 20-minute procedure included eight brief episodes. This allowed her to measure four attachment behaviours:

- safe-base behaviour – the extent to which the child feels safe to explore the room when the mother is present
- stranger response – the child's reaction towards a stranger when the mother is present and absent
- separation behaviour – the child's behaviour when the mother is absent
- reunion behaviour – the child's behaviour when the mother returns.

**KEY TERM**

**one-way mirror:** a piece of glass that looks like a mirror from one side but can be looked through like a window from the other

Participants were watched through a **one-way mirror** (see Figure 1.6) by two observers who verbally described the infants' reactions using a voice recorder to store this information. A timer clicked every 15 seconds, so it was clear which comments matched with which part of each episode. The researchers gave a score of one for every 15-second period that included movement, playing with toys, looking at the mothers and/or crying. The total score per three-minute episode was 12. This is an example of time-sampling.

The researchers also used rating/ranked scales (from one to seven) to measure the intensity of various behaviours including:

- proximity and contact-seeking, e.g. reaching, leaning, crawling towards, calling
- contact-maintaining, e.g. clinging, hugging, holding
- proximity and interaction avoidance, e.g. ignoring, looking/turning/moving away
- contact- and interaction-resisting, e.g. pushing the adult who seeks to make contact, wriggling to get down having been picked up, throwing toys or themselves onto the floor
- searching (measured during separations), e.g. trying to open/banging on the door.

TABLE 1.3: DESCRIPTIONS OF THE EIGHT EPISODES IN THE STRANGE SITUATION PROCEDURE

Episode	People present	Duration	Description
1	Mother, infant, observer	30 seconds	Mother and infant are shown into the playroom by the observer, who then leaves.
2	Mother, infant	3 minutes	Mother sits quietly on her chair; infant sits on the floor with some toys; mother interacts if the infant seeks her attention.
3	Mother, infant, stranger	3 minutes	Stranger enters; they are silent for one minute, talk to the mother for the next minute and then gradually approach the infant and show them a toy. The mother quietly leaves.
4	Infant and stranger	3 minutes	If the infant was playing, the stranger did not interact with them. If the infant was not playing, the stranger would try to initiate play. If the infant was distressed, the stranger would try to comfort them.
5	Mother and infant	3 minutes	Mother returns and the stranger leaves. Mothers were instructed to engage the infant with the toys but then say 'bye-bye' and leave again.
6	Infant	3 minutes	Infant is alone in the room.
7	Infant and stranger	3 minutes	Stranger returns and behaves in the same ways as in episode 4.
8	Mother and infant	3 minutes	Mother returns; stranger leaves the room.

### Findings

Based on her detailed observations in multiple exploratory studies, Ainsworth identified three types of attachment (see Table 1.4).

TABLE 1.4: TYPES OF ATTACHMENT

	Insecure-avoidant (Type A)	Secure attachment (Type B)	Insecure-resistant/ ambivalent (Type C)
Safe-base behaviour (exploring)	Infants explore the room/toys independently regardless of the mother's presence (she is not being used as a safe base).	Infants explore the room/toys only when the mother is in the room (she is used as a safe base).	Infants cling to their mother. They cry more and explore less than Types A and B.
Stranger fear	Infants accept comfort from the stranger and interact with them.	Infants avoid contact/interaction with the stranger. They resist comfort when it is offered.	Similar to Type B, these infants also show signs of stranger fear.
Separation anxiety	Infants do not become upset when the mother leaves the room.	Infants become very distressed when their mother leaves the room.	Infants show even greater distress than Type B when their mother leaves the room.
Reunion behaviour	Infants ignore the mother when she returns. They do not seek contact/proximity. When picked up by mother they look/turn away.	Infants show joy when their mothers return. They seek comfort and are easily soothed.	Infants seek contact when the mother returns but pushes her away angrily when she attempts to soothe/comfort them.
Observations from home visits	Insensitive, interfering and rejecting mothering observed.	Sensitive, responsive mothering observed.	Inconsistent mothering observed; warm and responsive on occasion and rejecting on other occasions.
Approximate % of children	20	70	10

In the home observation, mothers of Type B infants showed greater sensitivity and responsiveness, mothers of Type A babies were less sensitive and ignored their infants' cries for comfort or attention and mothers of Type C infants tended to be inconsistent.

### Conclusions

Ainsworth concluded that attachment security depends on the attachment figures' emotional availability, including sensitivity and responsiveness.

## WIDER ISSUES AND DEBATES

### Socially sensitive research

Ainsworth's research using the Strange Situation Procedure highlights the role that the mother plays in the attachment process. There is a strong implication from this research that the mother is responsible for the type of attachment formed. This can be considered to be socially sensitive research because it implies that the parenting style of some mothers causes insecure attachments that can have negative consequences for that child.

### Evaluation

The procedure is scientific as it is highly standardised – each episode lasts for the same amount of time; mothers come and go in the same way (for example, leaving quietly the first time and saying 'bye-bye' the second time). This means that other researchers have been able to repeat the study to check whether the same results are found when children are tested with their father, for example, Main & Weston, 1981.

Inter-rater reliability was calculated for 14 randomly selected infants (Ainsworth & Bell, 1970). As the observers had been provided with detailed instructions about how to use the rating scales and use the data to classify the children, inter-rater reliability was very high (for example, 0.93 for proximity- and contact-seeking behaviours). This increases the scientific status of the findings.

The findings lack validity as although a one-way mirror was used, the mothers knew that they were being observed while their infants played with toys. They may have responded to demand characteristics, meaning their behaviour may have been unnatural, for example, being more attentive to their infants than usual.

Ainsworth's findings may be **ethnocentric**. All the infants were all from middle-class US families from Baltimore, and so, the findings may not be representative of mothers and infants from the wider global population where parenting styles may differ. For example, in some cultures children are cared for by multiple people from an early age, while others are rarely separated from their caregivers (see Takahashi et al., page 20). Infants from other parts of the world may have responded differently, resulting in a different distribution of attachment types.

### LINK

For more on inter-rater reliability see page 194.

### KEY TERM

**ethnocentric:** used to describe findings from samples which lack cultural diversity, i.e. all participants are from the same cultural background

### SKILLS

EMPATHY/PERSPECTIVE TAKING, ETHICS, INTERPERSONAL SKILLS

## ACTIVITY 3

Working with a partner, imagine that you are two parents who have been observed, with your babies, in the Strange Situation Procedure. Roleplay a conversation between the two mothers about how they felt about taking part and having the observers watch them through the one-way mirror. You could write the conversation as a series of text messages if you prefer. As you write, think about how demand characteristics and observer effects might have affected the mothers' behaviour in the study. You should also think about the ethical issues presented by the study such as consent, psychological harm and confidentiality.

## CROSS-CULTURAL RESEARCH INTO ATTACHMENT TYPES

### LINK

You may find it helpful to read the following sections before moving on: how and why psychologists conduct cross-cultural research (see page 78), the classic study (van IJzendoorn & Kroonenberg, 1988) (see page 56) and the contemporary study by Cassibba et al. (2013) (see page 59).

**KEY TERMS**

**amae:** a Japanese word used to refer to a sense of closeness and interdependence between mother and child

**universal:** applies or is relevant to all humans despite differences in cultural practices, upbringing and other environmental influences

Cultural variations in attachment are interesting in their own right, but research in this area also helps to investigate Bowlby's claim that attachment behaviours are innate (**universal**). If he is correct, then babies around the world should show similar reactions in the Strange Situation Procedure. However, if attachment is influenced more by experience (nurture) than inheritance (nature), then we might expect to see some cultural variations. This is because people from around the world have differing beliefs, values and attitudes about how children should be raised. If these differences influence how parents interact with their infants, there may be differences in the distribution of infant attachment types from one culture to another.

Table 1.5 describes two replications of the Strange Situation Procedure in cultures with differing values and norms.

**THINKING LIKE A PSYCHOLOGIST**

How might differing cultural values and norms affect interactions between caregivers and their infants? How might this affect their behaviour in the Strange Situation Procedure?

As you look at Table 1.5, think about the validity of the observations and conclusions drawn by psychologists, especially when they are from a different culture to the participants.

TABLE 1.5: CROSS-CULTURAL RESEARCH INTO ATTACHMENT TYPES

	Grossman et al. (1991)	Takahashi et al. (1990)
Location	Bielefeld, North Germany.	Sapporo, Japan.
Values	Self-reliance, independence.	Harmony and order; love for parents and respect for family hierarchy (see also <b>amae</b> ), strict compliance with social conventions.
Norms	Greater interpersonal distance (personal space); close bodily contact is discouraged between infants who can walk and their caregivers.	Close physical contact and proximity are encouraged; separation is rare within the first 12 months. Infants are carried more often, and sleep and bathe with mothers until at least two years of age. Avoidance is impolite.
Method	Longitudinal study of 49 families recruited before the birth of their child. The study included both naturalistic and controlled observations of attachment behaviour and maternal sensitivity.	60 middle-class male and female infants and their mothers were assessed using the Strange Situation Procedure.
Results	Type A: 49% Type B: 33% Type C: 18%	Type A: 0% Type B: 68% Type C: 32%

When studying the table, remember the typical distribution of attachment types in Ainsworth's US studies was 70 per cent securely attached, 20 per cent insecure-avoidant and 10 per cent insecure-resistant.

**EXPLAINING CULTURAL DIFFERENCES IN THE DISTRIBUTION OF ATTACHMENT TYPES**

Cross-cultural differences in the distribution of attachment types suggests that attachment behaviour is not simply the product of an innate drive to bond but is also shaped by child-rearing experiences. According to Ainsworth's caregiving hypothesis, the higher proportion of insecure

attachments in Germany and Japan suggest lower parental sensitivity and responsiveness. However, the results from these cross-cultural studies should be approached with caution. It is possible that the Strange Situation Procedure is not valid when measuring the behaviour of people from cultures that differ significantly from the US in terms of child rearing practices.

### Germany

The higher proportion of anxious-avoidant infants in Germany compared with the US may have been due to differing cultural values and norms. German children are taught to be more self-reliant from an early age. This self-reliance/independence may have been wrongly interpreted as avoidance. This is supported by the fact that there was no significant difference between the average maternal sensitivity of the mothers of Type A German infants and the mothers of Type B American infants. What may have looked like an insecure-avoidant attachment was not the result of insensitive/unresponsive parenting but the result of cultural norms relating to decreased contact and increased interpersonal distance.

### Japan

The higher proportion of children classified as insecure-resistant in Japan may also have resulted from differences in child-rearing practices. Japanese infants may have found the Strange Situation Procedure very distressing as traditionally, they are rarely left alone. The mothers' exit from the room in Episode 3 is therefore likely to provoke more intense reactions than those observed in American infants. The researchers are trained to identify extreme distress as a sign of insecure-resistant attachment, explaining the high percentage of Type C classifications. In fact, the trials had to be ended for many Japanese babies who became so upset that they could not be comforted. This suggests that the Strange Situation Procedure is not a valid tool to measure attachment for children raised in more traditional Japanese families.

#### LINK

See page 387 for more on cultural issues in psychological research.

## WIDER ISSUES AND DEBATES

### The role of both nature and nurture in psychology

Overall, it can be seen that secure attachment is dominant across many different cultures. This suggests that attachment is a universal behaviour shaped by our biological inheritance. Even in the face of negative early experiences, for example, low sensitivity caregiving, multiple caregivers, the majority of infants form secure attachments. This supports Bowlby's evolutionary theory of attachment and the role of nature. However, when infants form insecure attachments, the type of insecure attachments (i.e. avoidant, resistant or disorganised) is influenced by experience. This is an example of the effect of nurture on behaviour and supports Ainsworth's ideas about caregiver sensitivity.

## CHECKPOINT

1. Why is the mother referred to as a secondary reinforcer in the learning theory of attachment?
2. What was the name of the parenting intervention tested in O'Connor et al. (2013)?
3. When would you expect an infant to be capable of forming lasting bonds with their caregiver, i.e. form an attachment?
4. Can you name four effects of maternal deprivation?
5. Why was researcher bias a limitation in Bowlby (1944)?
6. How might a Type A baby behave when their mother leaves the room?
7. According to Ainsworth, which two qualities in an attachment figure lead to the most securely attached infants?
8. What is meant by universality of attachment?

**EXAM PRACTICE**

1. Explain one feature of Bowlby's theory of attachment. (2 marks)
2. Explain one weakness of Bowlby's maternal deprivation hypothesis. (2 marks)
3. Bodhana and Jovita are 8 months old. Bodhana is cared for by her childminder Olena when her mother is at work. Olena has worked with the family since Bodhana was born and knows exactly how to help when Bodhana is upset. Jovita's mother works from home. Although she feeds and changes Jovita regularly, she pays no attention to her daughter. Explain two ways that Bodhana and Jovita's parenting experiences might affect their development. You should refer to caregiver sensitivity in your answer. (4 marks)
4. Assess the Strange Situation Procedure in terms of validity and ethics. (8 marks)

# CHAPTER 2 COGNITIVE AND LANGUAGE DEVELOPMENT

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate theories of cognitive development, including:
  - Piaget's stages of cognitive and language development
  - Vygotsky's zone of proximal development (ZPD)
- describe and evaluate the stages of language development and learning theories of language, including:
  - Skinner
  - nativist theory including Chomsky's language acquisition device (LAD)
  - interactionist theories including Vygotsky.

## GETTING STARTED

Many parents want to give their children a head start in life. They will try anything to get their baby smiling, reaching, walking, talking, reading and writing quicker than everyone else! Whether it's listening to Mozart, exposing them to another language or teaching them to use baby sign language, parents spend money and hours of time every year on attempts to accelerate their children's cognitive and language development.

Do you think a baby's innate ability can be altered through changing their environmental experiences?

Should parents try to speed up the course of nature or would their investment of time and money be better spent on something else?



▲ Should parents try to accelerate their children's development or let them develop at their own speed? What do you think is the most important part of a parent's role?

## THEORIES OF COGNITIVE DEVELOPMENT

### KEY TERMS

**maturation:** biological changes that occur as we get older

**stage theory:** an explanation that believes that developmental changes occur in a fixed sequence and are abrupt and discontinuous

Cognitive development refers to changes in the way that we process information over time. These changes may be due to **maturation** (nature), experiences in the environment (nurture) or the interaction of both. In this section, we will consider three explanations of cognitive development. The first is **stage theory**.

Stage theories suggest that:

- changes are universal; they happen in a fixed order regardless of individual differences, such as cultural background or formal education
- in typical development, development stages cannot be missed and development only moves forwards; once a child has moved into the next stage, they cannot move backwards into an earlier stage unless their brain becomes damaged in some way.

**KEY TERMS**

**accommodation:** altering a schema as a reaction to disequilibrium; this happens when a person is exposed to information which challenges their existing schema

**assimilation:** adding new examples into an existing schema

**disequilibrium:** a state of cognitive imbalance which happens when our schemas do not match with our experiences in the world; new information cannot be assimilated without accommodating the schema. Disequilibrium motivates us to learn and change and is the key to cognitive development and progress

**equilibrium:** a state of cognitive balance which happens when our schemas match our experiences in the world; all new information can be assimilated and there is no need for accommodation

**schema:** a mental construct which is used to interpret information based on prior experiences

**sensorimotor stage (0–2 years):** the first stage of Piaget's stages of cognitive development; the infant learns about their environment through the five senses and by moving their body to see what effect this has on their sensory experiences

**LINK**

For more on schemas see Topic B, Student Book 1.

**PIAGET'S STAGES OF COGNITIVE AND LANGUAGE DEVELOPMENT**

Swiss biologist and developmental psychologist Jean Piaget (1896–1980) was interested in how children's thinking changes over time. He believed that play and exploration of the physical world are central to the child's gradual development of a mental representation or inner world of knowledge and understanding.

**Schema**

Schemas (sometimes called schemata) are the basic building blocks of intelligent thought. Our inner mental world is made up of many interconnected schemas. These cognitive structures contain everything we know (consciously and/or unconsciously) about certain objects, people, events, concepts and actions.

Newborn babies are born with some basic innate action schemas that help them to survive in the early weeks, for example, sucking and grasping. As the baby begins interacting and experiencing the world, more complex schemas are developed. On page 10, you learned about Bowlby's concept of the internal working model. This is our 'relationships' schema. We start building this schema through our interactions with our primary caregivers.

**Adaptation**

As our knowledge becomes more detailed, so do our schemas. For example, we may have a schema for 'animals'. Based on experience, our animal schema may include tail (one), ears (two), legs (four) and fur. Imagine a child is taken to the zoo. The parent points to a lion, a bear and a camel each time saying 'animal'. The child is in a state of **equilibrium**. This is because their animal schema has not been challenged; there is a match between what they see and what they know. Through the process of **assimilation**, each new example is added to their existing schema.

Next, the parent may point to a snake and say 'animal'. The child may become confused. Now what they know and what they see are in conflict. The snake has no ears, no legs and no fur. The child has entered a state of **disequilibrium**. Their schema no longer matches the incoming information.

This example cannot be easily assimilated. Instead the example will be **accommodated** by making some changes to the schema. For example, the child learns that although many animals have fur, ears and four legs, these features are not true of all animals. Piaget used the term adaptation to describe the ongoing process of updating our schemas so that our inner (mental) representation of the world better reflects our external experiences.

**PIAGET'S FOUR STAGES OF COGNITIVE DEVELOPMENT**

Piaget believed that children's ability to think logically and reason about the world develops through four stages. Although the contents of our schema depend upon our experiences and opportunities for play and exploration, he believed that the way children use their knowledge at different ages follows a fixed sequence that depends more on nature than nurture. Each stage is characterised by specific abilities or ways of thinking.

**The sensorimotor stage (0–2 years)**

At the beginning of this stage, infants cannot store information. They cannot think about past events and so cannot plan for the future. The infant's world is all about what is happening in the present – what they see, hear, smell, taste and feel (their sensory experiences). They also learn that they are able to move their body in different ways, kicking, reaching, grasping, clapping, stretching and so on. Psychologists refer to movements as motor behaviour.

Gradually, infants begin to experiment. For example, they learn that if they shake their rattle, they hear a noise. This is interesting and exciting, so they shake the rattle again. They are learning that they can control their body and that their behaviour can bring about effects in the world. As they are receiving information through the senses and responding through movement, the stage is called **sensorimotor**.



In the second half of the sensorimotor stage, babies begin to experiment. If she hits the saucepan softly, the sound is quiet, and if she hits it hard, the noise is loud!

### KEY TERM

**object permanence:** understanding that objects still exist even when they cannot be seen; this knowledge relies on the ability to create a mental representation of the object

### SKILLS

INITIATIVE, INTELLECTUAL  
INTEREST AND CURIOSITY

### Object permanence

Piaget believed young babies do not understand that objects still exist when they cannot be seen. He observed his baby daughter Jacqueline and noticed that if he hid her toy duck under a blanket, she would immediately lose interest, as though it no longer existed. After the age of about eight months, she would pull the blanket back to find the toy. At this stage, he believed she had achieved **object permanence**. The infant was now able to encode and store a mental image or representation of the object.

### ACTIVITY 1

If you are lucky enough to know a young baby, you could carry out an observation of your own, with the parent/guardian's consent of course! Try to determine whether the infant has developed object permanence. Try capturing the baby's attention with an attractive toy and then hiding it. Does the baby look like they are searching for the object? How would you operationalise searching behaviour in a young baby?

### LINK

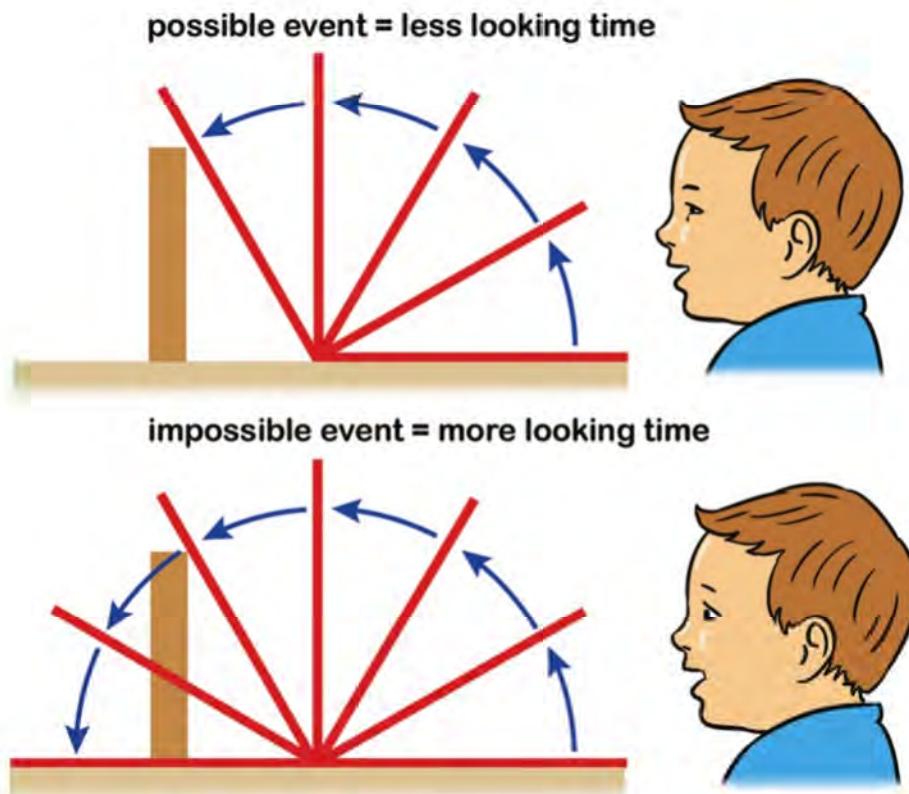
Separation distress as a sign of attachment (see page 18).

Object permanence also explains the ability to form attachment bonds which happens at about seven to eight months. When the mother leaves the room in the Strange Situation Procedure, babies cry because they know their mother still exists and they want her back. Before this age, when they cannot see their mother, they may be easily distracted by other sensory stimuli, e.g. continuing to play with the toys.

### Evaluation

Piaget measured object permanence by observing whether babies would reach out to find a hidden object. However this may not have been a valid measure of this cognitive ability and may instead have been measuring the babies' motor skills or their attention (i.e. 'I know the object is still there, but now I can't see it, other visible stimuli are more interesting to me'). Using

alternative measures of object permanence, researchers have shown that this knowledge may be acquired much earlier than Piaget suggested. Renée Baillargeon et al. (1987) showed that babies as young as three and half months spend more time looking at impossible than possible events (see Figure 2.1). The researchers interpret greater looking time as a sign of surprise. Baillargeon's research demonstrates that Piaget may have underestimated the cognitive abilities of young babies and this is a serious limitation of his work.



► Figure 2.1 The babies spent more time looking at a screen that appeared to pass through a solid object (impossible event) than at a screen rotating to 112 degrees before becoming stuck against the object (possible event)

## KEY TERMS

**egocentrism:** the preoperational child's inability to understand that other people see the world from their own point of view

**pretend (imaginative/make-believe) play:** recreational activity involving the creation of fictional or fantasy scenarios

**symbolic (representational) play:** recreational activity in which objects or actions are used to represent other things

## THINKING LIKE A PSYCHOLOGIST

Does 'looking longer' really indicate 'surprise' or could it simply be 'interest'? Rather than monitoring how long babies looked at an impossible event, Iain Jackson and Sylvain Sirois (2022) investigated object permanence in young babies using pupil dilation (measuring the increase in size of the centre of the eye). They believe that this is a more valid measure of surprise and have concluded that Baillargeon overestimated the cognitive abilities of very young babies. How could you test whether pupil dilation is really an objective measure of surprise?

## The preoperational stage (2–7 years)

By the end of the sensorimotor stage, children have developed basic language skills and they are now able to understand that a word can represent an object. Similarly, they are also able to use one object to represent another in **symbolic play**. For example, they might sit in a box and **pretend** it is a car or a boat.

### Egocentrism

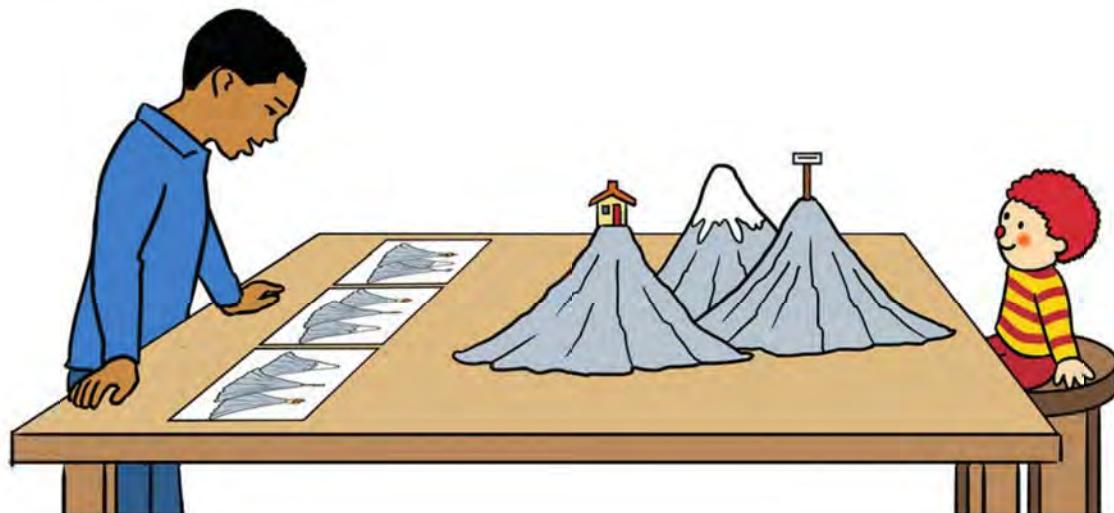
Although children are now able to mentally represent objects that are not physically present, they can only imagine the outside world from their own perspective or point of view. Piaget describes this as **egocentrism**.

Piaget used a cross-sectional study called the Three Mountains Experiment (Piaget & Inhelder, 1956) to demonstrate egocentrism (see Figure 2.2). Children were shown a three-dimensional model of three mountains, each topped with either snow, a house or a cross. The children were asked to select a photo that matched the view of a doll placed on the other side of the model. Four-year-old children chose the same picture regardless of whether they were asked to choose what they could see or what the doll could see. Six-year-olds chose a picture showing a view that was different from their own but did not consistently choose the correct picture. Only seven to eight-year-olds consistently chose the correct picture.

#### LINK

For more on cross-sectional studies, see page 77.

Children who are egocentric believe other people see the world (as well as think and feel) the same as they do. This is linked to the theory of mind and the development of empathy, see page 11.



► Figure 2.2 In Piaget's Three Mountains Experiment, the child is asked, 'What can the doll see?' Preoperational children will choose the picture showing their own point of view

#### Evaluation

Piaget measured egocentrism by asking children to select the doll's point of view from a choice of 10 images. This task may not have provided a valid measure of the children's ability to decentre. This is because the model was three dimensional, but the pictures were two dimensional, which means that the task was rather complicated.

Helene Borke (1975) adapted the Three Mountains task to make it suitable for younger children. She also replaced the doll with Grover, a puppet from a popular children television programme. She placed the model on a turntable and showed the children how to rotate the model so that they could show her what Grover could see. Now the four-year-olds were successful on 67 per cent of trials. When Borke used a scene including toy animals and people (not mountains), accuracy increased to 93 per cent. Again, this shows Piaget underestimated the cognitive abilities of **preoperational** children.

#### Conservation

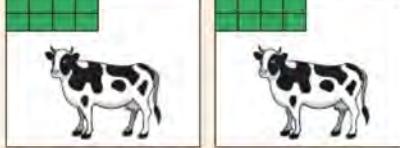
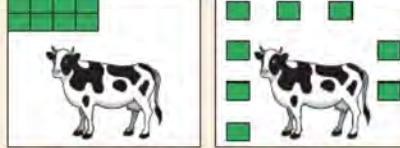
Piaget noticed that children aged two to seven typically do not pass **conservation** tasks, meaning they fail to understand that simply changing the appearance of something does not change the quantity, unless something has been added or removed. He tested this in several experiments (see Figure 2.3). In each case, children aged five or below (preoperational) would say that there was 'more' when asked the second question (see below). They focused on the appearance of

#### KEY TERMS

**conservation:** understanding that quantity does not change unless something is added or removed

**preoperational stage (2–7 years):** the second stage of Piaget's stages of cognitive development; the child can use symbols but cannot think logically; understanding of the world is dominated by how things appear from their own perspective (point of view)

the objects/matter and did not think logically about the fact that nothing had been added or removed. From the age of six, children may say the amount is the same but be unable to explain why. Piaget said children have reached the **concrete operational stage** only when they are able to explain their answer. He uses the term **decentre** to explain their ability to reach a conclusion based on logic and not just appearance.

Conservation task	Age of Acquisition	Original presentation	Transformation
Number	6–7 years	 Are there the same number of buttons in each line?	 Now, are there the same number of buttons in each line or does one line have more?
Liquid	6–7 years	 Is there the same amount of juice in each beaker?	 Now, is there the same amount of juice in each beaker or does one beaker have more?
Mass	6–7 years	 Is there the same amount of modelling clay in each piece?	 Now, is there the same amount of modeling clay in each piece or does one have more?
Area	8–10 years	 Does each of these two cows have the same amount of grass to eat?	 Now does each of these two cows have the same amount of grass to eat or does one cow have more?

▲ Figure 2.3 Piaget's conservation tasks

## KEY TERMS

**concrete operational stage (7–11 years):** the third of Piaget's stages of cognitive development; the child's understanding of the world is dominated by how things appear from their own perspective (point of view)

**decentre:** to consider all the available information when answering a question or making a decision rather than focusing on just one aspect (e.g. appearance in conservation tasks)

## Evaluation

Although Piaget devised interesting experiments to test children's conservation skills, other researchers have criticised his conclusions. James McGarrigle and Margaret Donaldson believed that Piaget's procedure created demand characteristics. They suggested that when Piaget altered the appearance of the display, e.g. pouring the liquid from the short beaker into the tall beaker and then asked the same question again, the children believed that they were meant to give a different answer to the one they had previously given. If they had answered 'same' to the first question, they thought they were now expected to say that the two arrangements were 'different'. This means that what the children say may not reflect what they know.

McGarrigle and Donaldson (1974) found that 63 per cent of children aged four to six could pass a number of conservation tasks if the change in appearance was caused by a playful teddy bear/toy who accidentally muddled up the line of counters. This was an important study as again it demonstrated that Piaget underestimated the cognitive abilities of preoperational children. It seems that under-sevens can decentre but are heavily influenced by social cues from adults, especially when tested in unfamiliar situations.

## KEY TERMS

**animism:** believing that objects (e.g. toys, furniture) are alive and therefore experience life-like thoughts and feelings; a feature of Piaget's preoperational stage

**beta bias:** tendency to minimise differences between men and women and therefore overlook potential differences

## LINK

Read more about beta bias on page 388.

## WIDER ISSUES AND DEBATES

### Cultural issues in psychological research

Piaget claims his stages are universal, meaning children all over the world should progress at roughly the same ages. However, Douglass Price-Williams et al. (1969) carried out tests of mass, number and liquid conservation with children from families who make pottery in Mexico. These children answered conservation questions correctly much earlier than children from similar families with different occupations. They concluded that early experiences with clay and helping to make pots accelerated their understanding. This suggests Piaget's theory may be ethnocentric and that he underestimated the role of culturally-relevant experiences (nurture) in cognitive development.

## EXAM TIP

In your essays, you need to develop logical chains of reasoning, combining AO1 (description) and AO3 (evaluation). A good way to do this is to break your paragraph into three themes using the following acronym C (Cause), E (Explain/Example), O (Outcome).

For example, you could explain that Piaget supported his theory using observations of his own children, and his experiments were mainly conducted on European, middle-class children (AO1 – the 'cause' of the problem). You could then explain this further using an example, such as Price-Williams et al. (1969) (to 'explain' how rates of progress are influenced by differing social and cultural experiences). Finally, you could add a 'mini conclusion' to the paragraph to explain the 'outcome' of this problem, i.e. the abilities of children with differing cultural experiences may be underestimated due to beta bias (see page 38).

## Class inclusion

Preoperational children understand that objects can be sorted into categories. For example they could sort the pictures into butterflies and bees. The majority would also be able to answer the question 'Are there more lions or more giraffes?' However, Piaget believed they would not be able to give a correct answer to the question: 'Are there more lions or mammals?' This is because preoperational children have difficulty understanding class inclusion. This is the ability to understand that categories (e.g. mammals) can be part of a bigger category (e.g. animals) and may also have sub-categories (e.g. lions and giraffes).

## Evaluation

Piaget's ideas about class inclusion are supported by research by Robert Siegler and Matija Svetina (2006). They found that Slovenian five-year-olds only answered 30 per cent of class inclusion questions correctly but this rate went up to 89 per cent for nine- to ten-year-old children. However, this study also showed that when the researcher gave logical feedback (e.g. there must be more insects because butterflies are a type of insect), five-year-olds were able to almost double their rate of correct answers. This shows that with support, preoperational children can reach developmental milestones much earlier than Piaget suggested.

## Animism

A final feature of the preoperational stage is **animism**. This is the belief that inanimate objects, plants and other natural phenomena are alive and can have life-like, human qualities. For example, a lost teddy might be scared and a difficult puzzle is being mean.

**KEY TERMS**

**deductive reasoning:** a logical process in which specific conclusions are drawn from general principles; moving from a general idea to a specific conclusion

**ethnocentrism:** theories which can only explain or predict the behaviour of people from one culture; studies which only include participants from one culture or the measurement and/or analysis of data is biased due to assumptions reflect the cultural background of the researchers

**reversibility:** changes do not have to be permanent; things can return to their original state

**syllogism:** a logical argument in which a conclusion is drawn based on two premises, e.g.  
Premise 1: All fruits have seeds. Premise 2: Bananas are fruit. Logical conclusion:  
Bananas have seeds

Piaget believed that children learn concepts such as reversibility through play with physical objects ►

**WIDER ISSUES AND DEBATES****Cultural issues in psychological research**

Animism is example of **ethnocentrism** in Piaget's theory. He believed animism is something that children 'grow out of' and that lack of animism is therefore equated with more advanced and rational thinking. However this could reflect an inherent Western, Eurocentric bias. People in many traditional cultures attribute spiritual and conscious qualities to aspects of the natural world such as rocks and trees. In some cultures of Indigenous peoples of Australia, this reflects the belief that such places are sacred and inhabited by the spirits of their ancestors. Developmental theories that take a hierarchical view of cognitive development can be used to justify colonialism, e.g. imposing the values and customs of the dominant culture on the indigenous population. This means that Piaget's theory of cognitive development can also be seen as socially sensitive.

**The concrete operational stage (7–11 years)**

Piaget believed that children aged seven and over are more logical due to their ability to decentre and focus on more than one feature of an object at a time. For example, when a child rolls a ball of clay into a sausage, they no longer think they have more clay (mass conservation). They are able to focus not just on the increased length but also the decreased diameter. However, he also believed that children aged seven to 11 need physical objects to manipulate to perform conservation tasks, e.g. pouring water from beaker to beaker. This helps them to understand **reversibility**, e.g. water that has been poured from a short, wide beaker into a tall, thin beaker cannot have increased in volume because it is possible to pour it back into the original beaker with no spillages.

**The formal operational stage (11+)**

Piaget believed that children aged 11 and over are able to use **deductive reasoning**. For example, they are able to solve **syllogisms** such as 'All cats love fish. I have a cat called Luna. Does Luna love fish?' This argument has two premises, a major premise (general rule): 'All cats

**KEY TERM**

**hypothetico-deductive reasoning:** a scientific method that involves forming hypotheses, experimental testing, drawing logical conclusions and modifying theories

'Luna loves fish' and a minor premise (a specific example), 'Luna is a cat'. To answer the question logically, we have to imagine a world in which the statements are true. There are no cats that dislike fish and there is no doubt that Luna is definitely a cat. If we can accept these statements, we can deduce that Luna, like all other cats, loves fish. We don't need to physically see Luna happily eating fish to reach this logical conclusion.

Formal operational thinking is also more scientific. Children aged 12 and over are capable of **hypothetico-deductive reasoning**, meaning they can form and test hypotheses. Piaget and Inhender (1958) demonstrated this using the pendulum problem. Children had to work out whether the speed at which an object swings when attached to a string is determined by its weight or the length of the string. Fourteen- to fifteen-year-olds systematically manipulated one variable at a time to determine cause and effect while younger children worked less systematically, making it difficult to draw conclusions.

**Evaluation**

Cross-sectional and longitudinal evidence suggest that most older teenagers lack deductive reasoning skills and this challenges Piaget's claims about the universality of this stage. Susan Martorano (1977) measured formal operational thinking using ten tasks, including the pendulum problem. She compared 80 female participants aged 11 to 17. Average scores improved significantly with age, but less than 60 per cent of 17-year-olds passed the pendulum problem and only 10 per cent consistently used formal operational thinking across the ten tasks. This shows Piaget overestimated the skills of children in the formal operational stage. However, the issue may have related more to the artificial nature of the tasks than the young people's lack of cognitive ability. This is supported by Willis Overton et al. (1987) who found that over 90 per cent of 17-year-olds consistently applied logical thinking when problems were phrased in familiar and meaningful ways. This is important as it shows that formal operational thinking may be evidenced in certain contexts and not others.

**General evaluation of Piaget's stage theory**

Piaget suggested that his stages of cognitive development are universal and driven by maturation which is a biological process. However, longitudinal research by Joel Bradmetz et al. (1999) found a moderate positive correlation between formal operational thought and general intelligence. This suggests that cognitive development may be affected by individual differences that affect intelligence such as genetic inheritance and diet. Piaget also underestimated the differences between children within the same stage and overestimated the differences between children in different stages, which also shows that he failed to think about the role of individual differences.

Despite the weaknesses, Piaget's theory has improved formal education in many countries. It has encouraged teachers and educational specialists to design child-focused, developmentally-appropriate learning experiences. For example, classrooms for seven- to 11-year-olds often include water, sand, modelling clay, counters, blocks and other visual aids to support their reasoning and problem solving. This is important as before Piaget's research, teachers tended to deliver knowledge rather than encouraging children to discover answers for themselves and think logically.

**EXAM TIP**

It can be easy to think of weaknesses of Piaget's theory as there are many studies that demonstrate how he may have underestimated and overestimated children's thinking skills at different ages. Make sure that you can also provide some detailed strengths. Think about the naturalistic observations he made of his own children – what are the strengths of this methodology? He also conducted many experiments (e.g. the Three Mountains Experiment, the pendulum problem). These studies could also be used to create points about how his work was objective, valid and reliable.

### VYGOTSKY'S ZONE OF PROXIMAL DEVELOPMENT (ZPD)

Like Piaget, psychologist Lev Vygotsky (1896–1934) was interested in cognitive development. However, he focused more on the importance of social and cultural factors. Piaget believed that children learn through self-discovery and independent play with objects in the physical world. In contrast, Vygotsky focused more on the learning that happens when children interact with each other and with adults in the social world.

Vygotsky believed decision making and problem-solving skills are passed on from more experienced group members to the younger members. This explains why people from different cultures have different world views and ways of thinking and reasoning. Piaget and Vygotsky agreed that children of different ages reason differently, but they differed in how they believed these age-related changes happen. Piaget focused more on curiosity and schema accommodation whereas Vygotsky emphasised social interaction and the importance of other people in supporting children's learning. As social interaction is central to learning and cognitive development in this theory, language also has a more important role in Vygotsky theory than Piaget's theory.

#### LINK

You will learn more about Piaget's and Vygotsky's ideas about language development on pages 24–33.

Vygotsky used the term **zone of proximal development (ZPD)** to describe the difference between what a child can achieve when working independently and what they can achieve when supported by a **more knowledgeable other (MKO)**. The MKO could be a teacher, parent or expert peer. The term proximal refers to the idea that with support, children can achieve tasks that are slightly, but not too far, beyond their current level of ability.

Although children may be able to achieve a great deal more when supported than alone, achievement is still restricted by age and stage of cognitive development. However, Vygotsky acknowledges that there may be individual differences in the size of the ZPD. These depend on the individual child, their pre-existing abilities and the skills of the learning partner. For example, the ZPD may be larger if the partner is able to adjust the support they provide to suit the learner's developing skills, as well as their level of confidence. The fastest progress is made when learning partners create a manageable degree of challenge but also support the learner so that fear of failure does not stop them from trying.

#### Scaffolding

David Wood et al. (1976) developed the idea of **scaffolding** to explain how MKOs guide learners through their ZPD. This may include:

- guiding the learner's attention to aspects of the task or problem that they already understand as a starting point
- giving positive reinforcement/feedback; emphasising important points and giving hints/clues
- helping learners to maintain attention.

The most effective scaffolding is matched to the learner's needs and is gradually withdrawn as the learner becomes more confident.

#### Evaluation

The idea that children can be supported to progress through their ZPD by MKOs is supported by David Conner et al. (1997). They found associations between the quality of parent-child interaction during problem-solving and literacy tasks and children's

#### KEY TERMS

**more knowledgeable other (MKO):** a person who possesses a higher level of knowledge or skill and is able to guide and support a learner within their ZPD

**scaffolding:** support and guidance provided by the MKO to help a learner to progress with the ZPD

**zone of proximal development (ZPD):** tasks a learner can perform with the help of a more knowledgeable person but cannot do independently

competence when tested individually later on. This shows that social interaction may be an important feature of cognitive development as Vygotsky suggested. Parenting interventions that model scaffolding skills may be beneficial for some families. However, this study only focused on two-years-olds and their parents/caregivers. Scaffolding by expert learning partners may be more or less beneficial for children of different ages and when learning partners are peers or teachers.

A weakness of Vygotsky's focus on the role of social interaction with MKOs is that it fails to acknowledge cultural and individual differences. For example, Harold Odden and Philippe Rochat (2004) studied parent-child interactions in rural Samoa where social hierarchy, rank and status are particularly important. Scaffolding from adults was rare and interviewing revealed that child-centred social interactions were believed to reduce the respect that is expected of children towards adults. This suggests that Vygotsky's theory may be ethnocentric; learning may take place in other ways in cultures where interactions between people of differing social ranks is restricted.

### WIDER ISSUES AND DEBATES

#### The use of psychological knowledge in society

Educational policy and teaching methods have been heavily influenced by Vygotsky's ideas. For example, Mehwish Haider and Aalyia Yasmin (2015) demonstrated the effectiveness of peer tutoring as a way of accelerating progress in a school in Rawalpindi, Pakistan. Class 5 children (aged 10 to 11) who received four weeks of peer tutoring from Class 7 children (aged 12 to 13) made significantly more progress in their English-language reading than a matched control group who did not receive peer tutoring. This suggests that Vygotsky's claims about the importance of social interaction in progressing children's cognitive development may be correct.

### THINKING LIKE A PSYCHOLOGIST

Studies such as Haider and Yasmin (2015) tell us little about which aspects of social interaction help the children to progress. Can you think of any reasons why working with an older child might help a younger child to succeed on a task? Try to bring in ideas from as many approaches in psychology as you can (think social, cognitive, biological and learning). What type of children do you think would benefit most from peer tutoring/support?

### KEY TERMS

**babbling:** an early stage of language development in which babies repeat sounds

**peer tutoring:** learners of similar abilities support each other to progress within their ZPD by working together and supporting each other

**phoneme:** any speech sound (e.g. /p/ or /b/) that cannot be broken down into smaller parts and differentiates meaning when combined with other speech sounds, e.g. p/in versus b/in

### STAGES OF LANGUAGE DEVELOPMENT

Research suggests that the stages of language development are universal, meaning all children go through the same stages, in the same order. However, the rate of progress may be affected by individual, social and cultural differences; therefore, the age ranges are guidelines only.

#### Prelinguistic stage (0–12 months)

Babies have an innate ability to discriminate (recognise the difference) between **phonemes** including sounds that are not part of the language(s) they most frequently hear. For example, young Japanese babies may respond differently to the sounds 'ra' and 'la' whereas Japanese adults may not hear this distinction. This is because in Japanese, there is no distinction between 'r' and 'l' (Miyawaki et al., 1975). As babies hear more of the language(s) spoken in their immediate environment, they begin to lose this ability.

#### Cooing and babbling

Babies make vowel sounds such as 'oooo' and 'aaaa' from about eight weeks old. This is called cooing. By six months, many babies are **babbling** by adding consonant and vowel sounds together, e.g. 'baaa' and 'maaa'. Babbling is believed to be innate (not dependent on hearing and/or imitation) as babies who are born profoundly deaf also babble (Steol-Gammon & Otomo, 1986).

**KEY TERMS**

**articulation:** the clear and precise pronunciation of speech sounds (or placement of fingers/hands) in expressive language (spoken or signed)

**expressive language:** the words that an infant produces

**holophrase:** a single word used to communicate a complete thought or complex idea

**mean length of utterance (MLU):** the average number of words used when a person speaks

**morpheme:** the smallest unit of meaning within a language, these can be words or parts of words which add meaning such as word endings (e.g. adding '-ed' for past tense)

**phonological awareness:** recognition and manipulation of sounds within a spoken language

**receptive language:** the words that an infant understands

**syntax:** language-specific rules for ordering words and phrases to create grammatically correct sentences

**telegraphic speech:** sentences made of verbs and nouns with no grammar words; named after the telegram (an early way of sending electronic messages; senders paid for every character, so messages were extremely brief)

**vocabulary explosion:** a time period in which a child rapidly increases the number of words that they understand or are able to use in their own expressive language

Sounds which are absent from the most commonly heard language are also often present in early babble but by the end of this stage, babble typically only contains sounds from the infant's native language (mother tongue). Babies often understand around 30 words at this stage and are using gestures to communicate as well as stringing sounds together which sound like speech, e.g. 'lo-lo-ta, ba-go-go'.

### The one-word stage (12–18 months)

First words are typically heard (or seen in the case of sign language) at about 12 months. **Receptive language** (understanding) develops rapidly, but **expressive language** (production) develops more slowly. By 18 months, many babies are using around 30 spoken/signed words. Nouns are typically learned more rapidly than verbs which are used from about 18 months. Single words may be combined with gestures or a change in tone or pitch to convey different meanings. These single-word utterances are called **holophrases**. Towards the end of this stage, many infants experience a **vocabulary explosion** in which they learn up to 20 new words per day.

### Telegraphic speech (18–24 months)

When the baby can say approximately 100–200 words, they start putting two and then three words together. This may include combining words in ways which they have not heard before. This stage is called **telegraphic speech**. Sentences are made of nouns and verbs but there are no grammar words. For example, 'Daddy cup' may mean 'This is Daddy's cup', 'Daddy, I want my cup' or 'Where is Daddy's cup?' Although the infant's speech may be difficult to understand without context, words are organised into mini-sentences which typically follow rigid rules about word order (**syntax**).

### Language expansion (2–3 years)

As the infant's vocabulary increases, so does the **mean length of utterance (MLU)**. Word order remains rigid and typically matches the syntactic rules of the most commonly heard (or seen) language. In English, this might be subject-verb-object (e.g. 'Daddy drink milk'), but in many other languages, including Finnish and Samoan word order varies.

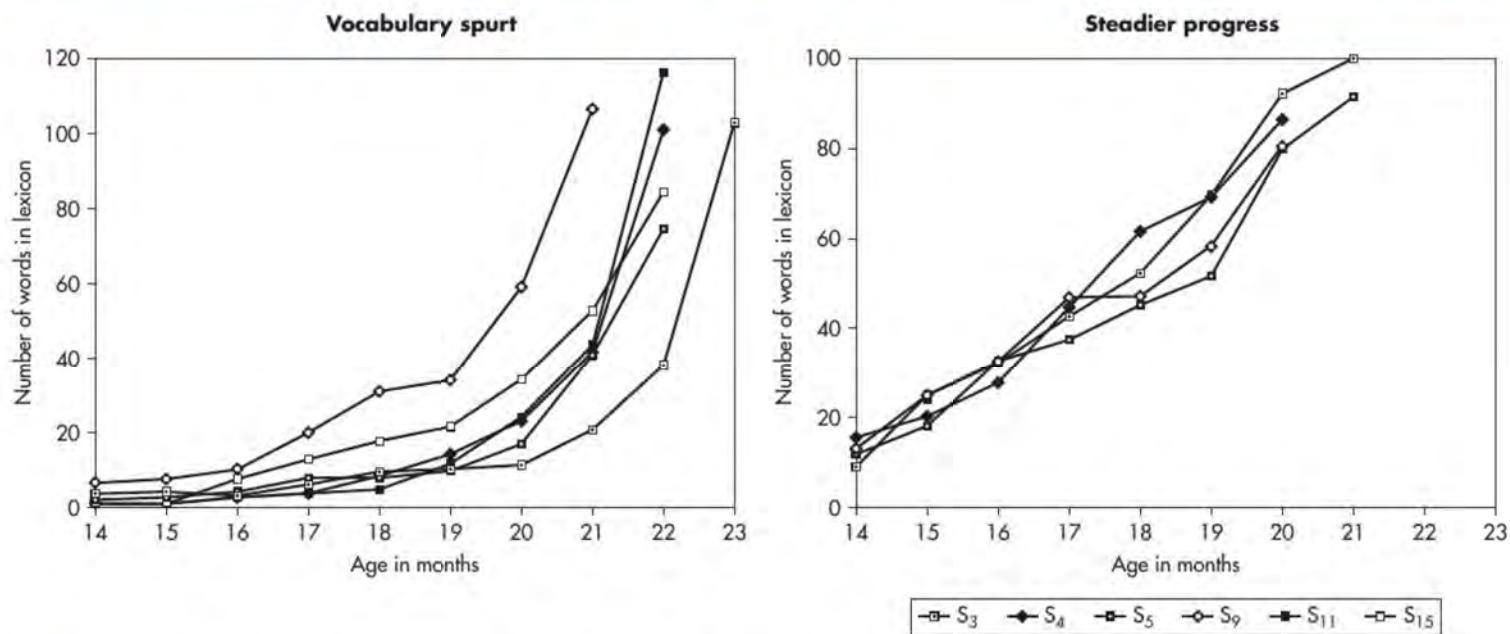
At this stage, children may start to add **morphemes**, e.g. adding an 's' to a noun to make a plural, adding 'ing' to verbs and using articles such as 'a' and 'the' (see Figure 2.5). Although speech begins to sound more mature at this stage, grammatical errors are common, often due to over-generalisation of grammar rules that they have learned. For example, they may add 'ed' to an irregular verb, e.g. 'Daddy drinked milk', 'Oops, cup breaked'. Gradually, children begin to use preposition such as 'on', 'in' and 'under' and form questions using words such as 'what', 'when' and 'why', e.g. 'What in Daddy bag?', 'When go daddy car?'

### Complex speech (3–5 years)

By three years old, children are typically using a full range of grammatical structures, including conjunctions such as 'but' and 'because' and pronouns in the place of names, e.g. 'we', 'I', 'they'. They are also developing **phonological awareness**, meaning that they are more aware of speech sounds within words and, so, begin to understand concepts like rhyme. **Articulation** is improving, meaning their speech is clearer and easier to understand.

### Evaluation of the stages of language development

The stages of language development described above are based on decades of research using naturalistic and experimental methods. For example, a ten-month longitudinal study by Beverly Goldfield and Steven Reznick (1990) provided evidence of the vocabulary explosion in 14-month-old infants. Mothers completed diaries and checklists to record their children's vocabulary development. In 72 per cent of cases, the children experienced vocabulary 'spurts' in which they learned words four times as quickly as they had done before (see Figure 2.4). However, the researchers also noted that not all of the children experienced these spurts. Five of the children learnt vocabulary at a much steadier rate.



▲ Figure 2.4 The rate of vocabulary learning in infants aged 14–23 months (Goldstein & Reznick, 1990).

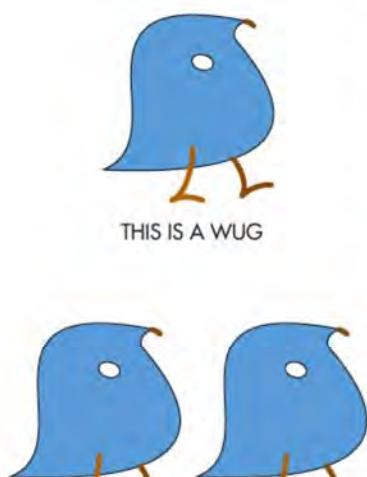
The first image shows a vocabulary explosion between 20 and 22 months for six of 13 children who experienced a period of rapid vocabulary learning. The second image shows a steadier rate of progress for five of the children.

Evidence from Jean Berko (1958) supports age-related grammatical differences in children's language. Five- to seven-year-olds made fewer errors than four- to five-year-olds when asked to complete sentences based on non-words, e.g. 'wug' and 'bod' (see Figure 2.5 and Table 2.1). This was an important study as using non-words meant none of the children would have heard the words before.

TABLE 2.1: AGE-RELATED DIFFERENCES IN THE CORRECT USE OF INFLECTIONS (BERKO, 1958)

	Percentage of children that correctly completed sentences including nonsense words (see Figure 2.5)	
	Adding a plural 's' – wug/wugs	Past tense – bod/bodded
Four- to five-year-olds	76%	14%
Five-and-a-half to seven-year-olds	97%	31%
Significance	p < 0.02	p < 0.05

Many psychologists agree that the stages of language development are universal. However, research suggests that this may not be true. Michael Maratos (1988) found that infants who learn Turkish, Georgian and/or Polish as their first-language(s) bypass the telegraphic speech stage and use inflections from a much younger age than first-language English speakers. Infants in these cultures are more likely to choose a different way of saying something than make a grammatical error. This is important as it highlights the importance of cross-cultural studies as a way of exploring cultural diversity before making claims of universality. However, William Snyder (2011) states that the absence of grammatical errors is only true for spontaneous speech in these languages. In experimental studies, they still make errors. This demonstrates the importance of collecting data in both experimental and naturalistic settings.



▲ Figure 2.5 Jean Berko (1958) found that children's understanding of grammar rules improves with age using non-words like 'wug' and 'bod'.

**KEY TERMS**

**selective reinforcement:** only target behaviours (sounds/signs in this case) are rewarded and others are ignored

**speech and language therapist:** a professional who assesses, diagnoses and treats individuals with difficulties relating to communication and swallowing

**LINK**

Berko (1958) is an example of a cross-sectional study, see page 77.

**LINK**

Refresh your memory of Skinner's theory of operant conditioning in Student Book 1, pages 233–240.

**MATHS TIP**

Berko used an independent measures design (see Student Book 1, page 264) as she compared two groups of children. She coded their answers as correct or incorrect, so the data was nominal (see Student Book 1, page 47). This means she could have used a chi-squared test to test the significance of her findings. Also the table shows that she obtained  $p$  values of  $<0.02$  and  $<0.05$  where  $p$  refers to the probability of obtaining these results if age does not affect grammatical correctness. For 'wug', the probability was 0.02, which is equivalent to 2 per cent or 1 in 50. As this is a lower probability than 1 in 20, her result is highly significant.

A strength of research on language development is that it means professionals can identify children whose progress differs from the norm. If a child is making significantly slower progress than chronologically age-matched peers, they may be targeted for intervention and/or support from a **speech and language therapist**. This shows that research in this area has made a positive contribution to society.

**THEORIES OF LANGUAGE**

In the same way that there are many theories about cognitive development, there are several theories about the way that language develops.

**LEARNING THEORIES INCLUDING SKINNER**

Burrhus F Skinner (1957) believed babies learn language through operant conditioning. He believed that spoken language is gradually shaped through positive reinforcement. First, babies make babbling sounds, repeating sounds such as 'mamamamama'. If parents encourage this behaviour through excited facial expressions and attention, these sounds will become more common. If infants make sounds that do not match sounds of the family's main spoken language, these sounds are ignored and become less common. Sounds that are not reinforced gradually become extinct. This process is called **selective reinforcement**.

This explains why first-language speakers sometimes find it difficult to make sounds which are only found in certain languages.

Gradually, parents may only reinforce patterns of sounds in certain contexts. For example, they may praise the infants more when they say 'mamama' when their mother is close by than when their father is close by. This is because 'mamama' sounds similar to the English word mummy. As the infants begin to make appropriate sounds to match the context, e.g. caca for cat, the parent will only reinforce the child when they begin to add the final letter sound ('t'). In later stages of language development, parents may initially reinforce any attempt to say a word, e.g. mook for milk, but gradually begin to only reward the correct pronunciation. Later still, they may only positively reinforce words when the correct syntax is used.



▲ Skinner's theory explains why some Mandarin speakers find it difficult to make English sounds such as 'v' – as babies, they may have made the v sound, but it was unlikely to be reinforced and so it became extinct. Likewise, some English speakers may find it difficult to pronounce Mandarin sounds, such as the 'zh' which is similar to 'je' in French

**Evaluation**

Skinner believed that parents/caregivers play a central role in shaping language development by responding to the babies' spontaneous vocalisations. This is supported by Michael Goldstein et al. (2003) in a laboratory experiment that compared the maturity of infant babbling in two groups of eight-month-old babies. In one group, the mothers



▲ Do we really need to talk to babies for them to develop their language skills or is simply hearing others talking to each other enough? Do you think language development is faster or slower in large families versus smaller families?

#### LINK

See page 355 for more on content analysis.

These findings were replicated in a content analysis of qualitative data collected during observations of 40 upper-middle class American mothers. Kathy Hirsh-Pasek et al. (1984) observed the mothers and infants playing. Children's utterances were coded as grammatical (e.g. 'people live in Florida') or ungrammatical ('people lives in Florida') and mothers' responses were coded as 'approving' or 'disapproving'. They found no difference in the mothers' responses depending on the grammatical accuracy of their children's speech suggesting that even in the multiword stage, nurture may play less of a role in language development than Skinner claimed.

Hirsh-Pasek et al. (1984) also showed that 20 per cent of children's utterances are ungrammatical. For example, English-speaking children often add an 's' to make a plural or 'ed' to indicate the past tense, even with words that are exceptions to the rules. Skinner's theory cannot explain why children make these mistakes as they are unlikely to hear ungrammatical phrases from their parents. Also, when parents correct grammatical mistakes, children often continue to make the same mistakes. This also cannot be explained by operant conditioning theory.



▲ Operant conditioning principles are often used in speech and language therapy to support children with specific language delays, including autism

smiled every time the baby made a sound. In the other group, the mothers smiled at their babies, but these reactions were not matched to their babies' behaviour. Babies in the first group babbled more and their vocalisations were judged as more complex and mature than babies in the second group. This shows operant conditioning may contribute to development in the prelinguistic stage.

A weakness is that Skinner did not base this idea on observations of real interactions between infants and their caregivers. A two-year longitudinal study of three families by Roger Brown and Camille Hanlon (1970) noticed that parents praised and rewarded their children regardless of the accuracy of their syntax. They were consistently quick to respond to the meaning of their children's speech but rarely showed disapproval of ungrammatical speech. This suggests that Skinner's theory may not explain language learning in the later stages of development.

#### NATIVIST THEORY INCLUDING CHOMSKY'S LANGUAGE ACQUISITION DEVICE (LAD)

Noam Chomsky (1957) argued that language learning could not possibly result from selective reinforcement and imitation. This claim was partly based on the huge amount that children learn in such a short space of time, sometimes with limited input from parents. Typically, adults do not use formal grammar in conversation. They interrupt each other, change their minds about what they are saying and often leave sentences incomplete. Infants may be immersed in rich language learning environments, but it is difficult to understand how these experiences allow them to acquire language so accurately and rapidly.

**KEY TERMS**

**credible:** the extent to which a research's methods and analysis/interpretation are trustworthy and believable, including the extent to which it represents the participants' perspectives and experiences

**critical period for language learning:** a biologically determined time period (between conception and puberty) when humans are particularly receptive to learning language

**language acquisition device (LAD):** an innate cognitive mechanism that allows humans to acquire language skills

**neuroplasticity:** the brain's ability to re-organise itself by forming new neural connections throughout life

**transformational grammar:** rules that help a language learner to turn meaning (deep structure) into a sentence (surface structure) and listen to sentences (surface structure) and understand the meaning (deep structure)

**universal grammar:** linguistic features or rules that are present in all human languages

**Language acquisition device**

Chomsky proposed that children are biologically predisposed to learn language(s). He claimed that infants are born with a **language acquisition device (LAD)** which allows them to identify patterns in speech and extract rules about how words should be ordered. The LAD is not a specific brain region, more of an innate, uniquely human hypothetical tool that allows us to understand and produce language.

**Universal grammar**

Initially, Chomsky claimed the LAD contained **universal grammar** meaning humans are born with knowledge of basic linguistic features shared by all human languages, e.g. sentences always combine noun phrases (e.g. 'the cat') and verb phrases (e.g. 'is drinking'), all spoken languages are made of consonant sounds (e.g. 'tuh') and vowel sounds (e.g. 'ay') which make sounds like 'tay' in 'table'. He believed that the ability to learn any language to which we are exposed is due to our innate understanding of universal grammar.

**Transformational grammar – deep and surface structure**

Finally, Chomsky claimed that the LAD helps us to work out the meaning of sentences (the deep structure) based on the specific words and their order (the surface structure). He calls this skill **transformational grammar** because comprehension involves converting (transforming) surface structure into deep structure and speech production involves converting deep structure into surface structure. In typical development, these processes are effortless and unconscious.

**Other nativist theories**

Some nativist theorists believe that there is a **critical period for language learning**. For example, Eric Lenneberg (1967) believed that if a first language was not acquired by puberty, then a person will never be able to use complex grammar. He believed that this is due to decreased **neuroplasticity** following puberty in key brain regions relating to language.

**THINKING LIKE A PSYCHOLOGIST**

Modern nativists such as Daniel Slobin argue that the LAD means we are biologically programmed to pay greater attention to parts of a sentence which are stressed or emphasised, e.g. by saying them slightly louder or with a pause afterwards. This helps us to understand the deep structure of sentences with ambiguous surface structure, such as 'I never said she stole my money'. This sentence has seven different meanings depending on which word is stressed. Try saying it seven times emphasising a different word each time. How does the emphasis change the meaning?

**EVALUATION**

Chomsky's theory provides a **credible** explanation of why young children make grammatical errors. If their LADs detect patterns in speech and infer rules about how sounds and words should be combined in a sentence (e.g. adding an 's' to make a plural), then it makes sense that occasionally children may over-generalise these rules. This over-generalisation causes errors such as 'I goed to the dentist' and 'I'm brushing my tooths.' This is a strength of Chomsky's theory compared with Skinner's which cannot explain the presence of early grammatical errors.

However, Chomsky's claims that the LAD contains linguistic universals has been challenged. Originally, this idea was based on research which identified 45 features that were shared between 30 world languages from countries including Pakistan, Colombia and Senegal (Greenberg, 1963). However, more recent research has revealed many languages that do not share these features, e.g. Riau Indonesian. Chomsky's theory could, therefore, be said to suffer from beta bias as it ignores cultural and linguistic diversity.

Another weakness is that Chomsky underestimates the importance of social interaction as a motivator for language learning. From his point of view, if a child is exposed to enough

**LINK**

For more on the importance of social interaction for language learning see Vygotsky's theories on page 32.

**LINK**

For more on Genie, see page 85.

**KEY TERMS****critical period**

**hypothesis:** if language acquisition does not begin before the offset (end) of the critical period, the individual will never achieve the same standard of language use as those who develop their skills within the critical time span

**cultural tools:** culturally transmitted systems which use symbols (e.g. language, mathematics, art) and allow us to share ideas

**inner speech:** internal/silent form of verbal thought that becomes a critical tool for self-regulation and higher cognitive functions

**preintellectual speech:** early, shared communicative expressions of children before the development of fully internalised language

**private speech:** external/audible utterances which aid the child's thinking and problem solving; talking to themselves while doing a task

language, they should be able to identify patterns and infer language rules. However, this is not always the case. Jim was a hearing child of two deaf parents. His parents wanted him to learn to speak rather than only use sign language like them. They exposed him to a lot of speech on television and radio, but Jim's progress was extremely limited (Sachs et al., 1981). This case study is important as it suggests that language development may be better explained by interactionist approaches that emphasise the importance of nature and nurture.

Despite some limitations, the idea of a critical period for language learning is supported by case studies of extreme privation. For example, in the 1970s, a thirteen-year-old girl, who researchers called Genie, was discovered in Los Angeles, in the US. She was unable to walk or talk and it was gradually revealed that she had lived in almost complete social isolation, and was abused and neglected for 10 years. Various professionals became involved in her case. They tried to teach her language, realising that she provided a rare opportunity to test Lenneberg's critical period hypothesis. Despite quickly developing a large vocabulary, which she combined into meaningful multiple word utterances, e.g. 'I like hear music ice cream truck', Genie's speech was described as 'syntactically primitive and underdeveloped' (Curtiss, 1978, page 29). This supports the idea that there is a critical period for language learning. However, the findings of this case are controversial; linguist Peter Jones (1995) believed that Genie's development plateaued (levelled off) due to further traumas in her life rather than a lack of potential.

Lenneberg's **critical period hypothesis** suggests that second-language learning may be more difficult if children do not receive enough input before the offset of the critical period. This implies that primary schools should provide opportunities for second-language learning in the early years. This would give children the best chance of becoming fluent in another language. Also, the critical period hypothesis suggests that, where possible, infants who are born deaf should be prioritised for corrective surgery (i.e. cochlear implants) as quickly as possible to avoid speech and language impairment.

## INTERACTIONIST THEORIES INCLUDING VYGOTSKY

Interactionist theories explain language development as a combination of nature and nurture. Although these theorists accept that we are born with a natural ability to learn language (see nativist theories above), they underline the critical importance of the social context in which this learning takes place. These theories developed from Vygotsky's ideas about the social origins of cognitive development (see page 32). He believed infants are driven to learn language due to their desire to communicate and participate in social activities with their caregivers. He referred to very early speech as **preintellectual**. For example, infants imitate words and phrases because they are highly motivated to engage with others rather than using language to think about the world.

### Thinking aloud

Young children often talk out loud to themselves when they are solving problems. Vygotsky called this **private speech**. However, he believed children only use language in this way if they have experienced sensitive scaffolding (see page 50) in interaction with skilled learning partners. For example, an adult can scaffold an infant's play by talking to them about what they are doing and encouraging them to work out solutions to problems. Over time, infants begin to scaffold their own thinking by talking aloud to themselves. By two to three years of age, private speech is internalised. Using **inner speech**, the child can think things through verbally without vocalising their thoughts aloud. At this point, the child is no longer using words simply as labels but actively combining them to support their cognitive development.

### Cultural tools

Vygotsky believed that language is just one of a set of **cultural tools** that help us to make sense of the world. They provide ways of representing ideas through symbols. Experience teaches us how to combine these symbols to think about things that we may not have directly experienced. These tools are passed from one generation to the next through social

interaction, including formal education. Other cultural tools include art and mathematics. These tools allow users to think in increasingly complex ways and to share those thoughts with others.



▲ Have you noticed that young children often talk to themselves while solving problems?

### KEY TERMS

**joint attention:** shared focus between individuals on an object or event

**language acquisition support system (LASS):** social interaction and linguistic input that promotes and encourages a child's language development

**motherese/parentese/ infant-directed speech (IDS):** a melodic and simplified style of speech used by adults with infants and young children; includes high pitch, slow delivery and hyper-articulation (over-emphasis)

### Bruner's interactionist theory

Jerome Bruner accepted Chomsky's ideas about children being biologically prepared to learn language, but he believed that the LAD cannot function without a **language acquisition support system (LASS)**. The LASS refers to parents, older siblings, expert peers and anyone else who engages with the infant in a sensitive and child-centred way. This often includes:

- the use of **motherese/parentese** (also known as **infant-directed speech (IDS)**), a simplified way of speaking to infants and young children which includes a high pitch, slow delivery and hyper-articulation (over-emphasis))
- activities to promote **joint attention** (e.g. looking at picture books) which typically develops between six and 12 months and refers to the infant's ability to coordinate their focus with another person. For example, both looking at the same picture in a book.

### THINKING LIKE A PSYCHOLOGIST

When psychologists talk about motherese/parentese, they tend to refer to ways in which spoken language is adapted when interacting with infants. But what about adults who do not use spoken language? Do profoundly deaf parents who communicate using sign language adapt the signs that they use with their babies? How could you conduct a study to find out? What research method and/or design would you use? Think about how you would quantify your data and how it might be analysed.

### Evaluation

Interactionist theories focus on the importance of social interaction. This is supported by the case of Jim, the child of deaf parents (see page 39) who made poor progress despite a high level of language input from radio and television. When he was able to interact socially with his speech and language therapist, his language learning advanced rapidly. However, these findings are rather inconclusive. Jim's poor progress may have been due to him passively listening to language from the radio and television, without receiving any feedback. Another explanation is that the language he was hearing lacked the features of infant-directed speech.

The long-term benefits of social interaction and parentese were revealed in a longitudinal study by Nairán Ramírez-Esparza et al. (2017). A positive correlation was found between the amount of parentese at 11 months and language development at 24 and 33 months. Children exposed to the most parentese produced an average of 400 more words at 33 months than those exposed to the lowest amount. However, parents who used a lot of parentese at 11 months also talked to their children more at 33 months, so it is difficult to know whether it was the parentese that made the difference.

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### THINKING LIKE A PSYCHOLOGIST

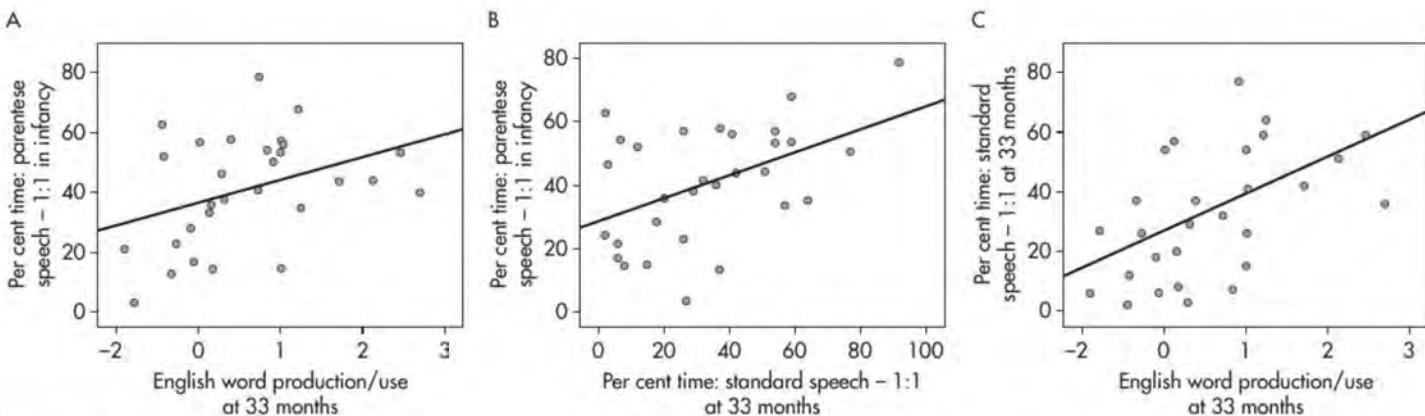
The parents in Ramírez-Esparza et al. (2017) wore special vests with chest pockets containing digital devices that recorded their verbal communication during normal weekend days at home with their children. In total, the researchers analysed 48 hours of data for each child.

- How does this way of collecting the data improve the study?
- How might the findings be different if the researchers had recorded data during standardised play sessions in a laboratory setting?

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A weakness of interactionist theories is that the importance of parentese may be overestimated. Although parents in many cultures use parentese, this is not the case in all cultures. Elinor Ochs and Bambi Schieffelin explain how parents in the Kaluli tribe in Papua New Guinea do not speak directly to their infants until they can talk back to them (Ochs & Schieffelin, 1984). Parentese is not used at all in the prelinguistic stages and social interaction with parents is minimal. Despite this, language is still acquired, apparently providing support for Chomsky more than Vygotsky. This study also shows that researchers should always consider cultural diversity when trying to explain how children acquire language.

Furthermore, experimental research suggests that some features of parentese may be more beneficial than others. Jae Yung Song et al. (2010) found that 19-month-old babies were more likely to look at the correct picture when they were instructed to do so in a voice characterised by slow speed and hyper-articulation. Varying pitch made no difference to the babies' ability to look at the correct picture. This contrasts with previous research that shows varying pitch may be helpful as it encourages infants to develop joint attention (Fredman, 2017).



▲ Figure 2.6 Scattergrams to show the correlations between parentese, parental standard speech and children's speech production

### WIDER ISSUES AND DEBATES

#### Cultural issues in psychological research

Much of the data to support the interactionist theories has been collected from 'WEIRD' samples, meaning people who are white, educated and living in industrialised, rich and democratic countries. This suggests the findings of these studies and the theories being tested may be ethnocentric. Anthropologist David Lancy used the term neontocracy to refer to cultures where young children are highly valued and their happiness, status, self-esteem and protection are prioritised. In these cultures, parents' lives may seem to be 'ruled' by their children and a great deal of time, effort and money are invested in them. As much of the child development research is conducted in these child-centric cultures, certain parenting styles are viewed as the norm or standard to which parenting in all other cultures is compared. This means that cultures that spend less time interacting 1:1 with their infants may be viewed as inferior and damaging to the children's cognitive and language development. This means that much of the classic Eurocentric research in cognitive and language development can also be seen as socially sensitive.

#### LINK

For more on socially sensitive research, see page 393.

#### SKILLS

ANALYSIS, COMMUNICATION

### ACTIVITY 2

Use what you have learned about theories of language development to create a one-page information sheet that gives advice about how to promote language development in infants. Your information sheet should be suitable for young people involved in childcare (e.g. day care assistants, babysitters). Your information sheet should provide practical advice but also explain why this is good advice, using information from the three theories.

### CHECKPOINT

1. Which term does Piaget use to explain when a child's schema no longer matches the evidence from the outside world?
2. Which of Piaget's stages of development is a child in when they are able to decentre?
3. With reference to Vygotsky's theory of cognitive development, what is the link between the zone of proximal development (ZPD) and scaffolding?
4. In which stage of language development do children make grammar errors due to over-generalisation?

5. Which term does Skinner use to describe babies being rewarded for making sounds from their own language and ignored for making sounds that are not from their language?
6. Can you give an example of universal grammar?
7. Why did Chomsky think that language acquisition must be biological?
8. How many linguistic universals has been identified?
9. What is the difference between private speech and inner speech?
10. Can you name three things that Vygotsky refers to as cultural tools?

### EXAM PRACTICE

1. Describe what Piaget meant by egocentrism. (2 marks)
2. Explain one weakness of Chomsky's nativist explanation of language development. (2 marks)
3. Claudia serves three fish fingers each to her four-year-old daughters, Giulia and Chiara. Giulia cuts her fish fingers up into lots of small pieces and arranges them all over her plate. 'There I've got more than you now!' she says to her sister. Claudia carefully pours each of them the same amount of juice. Giulia has a short wide beaker and Chiara has a tall thin beaker. 'I don't care!' says Chiara, 'because I have more juice!' With reference to Piaget's theory of cognitive development, explain one reason why Giulia thinks she has more fish fingers and Chiara thinks she has more juice. (4 marks)
4. Aldo has two children. His son Alfie is 18 months old and his daughter Hema is five. Hema loves to play with Alfie. She talks to him a lot while showing him her toys. Aldo has noticed that Alfie seems to be communicating much more than Hema did at his age. Using Vygotsky's interactionist explanation of language development, discuss why Alfie might be making more rapid progress than Hema. You must make reference to the context in your answer. (8 marks)

# CHAPTER 3 SOCIAL AND EMOTIONAL DEVELOPMENT

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate theories of social and emotional development, including:
  - Erikson's stages of psychosocial development
  - Vygotsky's theory of social development
- describe and evaluate mindfulness as a way of enhancing social, emotional and cognitive development.

## GETTING STARTED

Psychologists have differing views about the effects of birth order, i.e. whether you are an older sibling, middle child or younger sibling. On the one hand, having siblings provides a natural play partner and friend. On the other hand, the more children in a family, the less time parents have to spend one-to-one with each individual child.

- Do you have any brothers and sisters or are you only an only child?
- What impact do you think this has had on your development?



▲ Growing up with siblings can be fun but what difference does it make to a child's development? Do you think children develop more rapidly in families with just one child, two or three children or multiple children of differing ages?

## KEY TERM

**social and emotional development:** the process of acquiring skills and abilities that help the individual to understand and manage emotions, form and maintain relationships, and interact with others in diverse, social contexts

**Social and emotional development** refers to a child's ability to form positive relationships with adults and other children. To do this, children must learn to regulate their behaviour and their emotions. They must learn how and when to behave in certain ways and how to express their feelings in ways which are healthy and functional. This will differ from culture to culture. However, to function well in society, children must learn to communicate their needs, listen to instructions, resist impulses and show self-control, build friendships, resolve conflicts and cope with frustrations.

Many of these social and emotional skills interact with cognitive skills, such as attention and awareness. Children with better social and emotional skills are often more confident in their abilities and more resilient, meaning they cope better when things get difficult. However, research suggests that only 40 per cent of children entering preschool (kindergarten) have the necessary social and emotional skills to succeed (Ashdown & Bernard, 2012). This means that many children may fail to reach their academic potential as social-emotional competence is an important predictor of academic achievement.

**KEY TERMS**

**basic trust:** confidence in the reliability/dependability of others; more likely when people behave in ways that are predictable

**psychosocial crises:** internal conflicts that characterise Erikson's eight psychosocial stages; individuals must resolve these crises to develop virtues which allow them to successfully progress into the next stage of development

**virtues:** positive qualities or characteristics that result from the successful resolution of the psychosocial crisis associated with each stage of development

**THEORIES OF SOCIAL AND EMOTIONAL DEVELOPMENT****ERIKSON'S STAGES OF PSYCHOSOCIAL DEVELOPMENT**

Erik Erikson was a student of Sigmund Freud (1856–1939), a famous European psychiatrist who believed that our personalities result from early childhood experiences. Unlike Freud, Erikson believed experiences throughout our lives play a crucial role in shaping our development. Like Vygotsky, he focused on the importance of social interactions with different people in each life stage, including parents/caregivers, friends and partners, our own children and those of others.

Erikson's life stages are characterised by **psychosocial crises**. These challenges/dilemmas must be resolved in order to develop positive traits, which Erikson calls **virtues** (see Table 3.1). These traits help the person throughout life and are associated with better physical and emotional wellbeing. When psychosocial crises are unresolved, negative behaviours may follow, e.g. social withdrawal. This can reduce wellbeing and limit development.

TABLE 3.1: ERIKSON'S PSYCHOSOCIAL STAGES OF DEVELOPMENT

Stage	Age	Psychosocial crises	Important influences	Impact on development	
				Virtues (positive)	Pathologies (negative)
1	0–18 months	Basic trust versus basic mistrust	Attachment figure	Hope	Withdrawal
2	18 months–three years	Autonomy versus shame, doubt	Parents/guardians	Will	Compulsion
3	Three–six	Initiative versus guilt	Family	Purpose	Inhibition
4	Six–11	Industry versus inferiority	Wider community/neighbourhood, school friends, teachers	Competence	Inertia
5	12–18	Identity versus identity confusion	Peers and out groups, models of leadership	Fidelity	Repudiation
6	18–30	Intimacy versus isolation	Intimate partners, friends, colleagues	Love	Exclusivity
7	30–65	Generativity versus stagnation	Divided labour and shared household responsibilities	Care	Over-extension or reactivity
8	65+	Integrity versus despair	Humankind	Wisdom	Disdain

**Stage 1: Basic trust versus mistrust (0–18 months)**

Erikson suggests that early attachments are responsible for the baby's developing sense of hope. When babies trust their caregivers, they learn they are not alone in the world. Infants learn to trust other people and themselves. As they move into other life stages, this sense of **basic trust** continues with them, allowing them to take risks with a positive attitude.

**KEY TERMS**

**identity:** subjective sense of self including how a person would describe and evaluate themselves

**inertia:** a passive state in which nothing seems to matter that can develop into feelings of inadequacy and inferiority

**inhibition:** a state in which the child fails to act on their impulses due to fear of consequences

**initiative:** the ability to control and direct one's own behaviour and that of others

**self-concept:** a mental representation (schema) containing everything we know about who we are as an individual and in relation to others; similar to identity

**self-esteem:** a person's sense of self-worth; based on a subjective evaluation of their strengths and limitations, e.g. traits, skills and abilities

**self-regulate:** the individual's ability to control their own behaviour by observing and assessing the outcomes of their actions on themselves and others, and through rewarding behaviours that allow them to meet their goals

**social interaction:** both verbal and non-verbal communication between individuals in a social context; relies on shared understanding

Inconsistent and/or emotionally distant caregiving can lead to the development of basic mistrust and the belief that other people cannot be relied upon. Instead of developing hope, the infant begins to withdraw from the world, becoming more difficult to engage and more irritable.

**Stage 2: Autonomy versus shame and doubt (18 months to three years)**

Autonomy refers to the infant's desire to be independent. Once they can move around by themselves, they develop a strong desire to explore and do things for themselves. However, they are often faced with adults who try to take over or stop them. The developing infant learns that others may not always approve of their actions. They also learn that they must balance the desire to discover and explore with the desire to please others. One way to help children in this stage is to give them limited choices, e.g. 'Do you want to eat beans or peas?' so that they have some control over their environment. When parents show constant disapproval, this can lead to shame and low **self-esteem**. Infants who successfully resolve this stage develop will, or the ability to behave intentionally and make choices.

**Stage 3: Initiative versus guilt (three to six years)**

Learning through play and **social interaction** with friends, extended family, teachers and neighbours is an important feature of this stage. Children benefit from opportunities to try new things and to try out ideas in pretend play, alone or with peers. This supports the development of **initiative**. As children take increasing responsibility for their actions, they also learn to **self-regulate**. If their efforts are met with disapproval, this can lead to embarrassment, guilt and **inhibition**, meaning natural curiosity and creativity are stifled. Resolution of this stage leads to the development of the third virtue, purpose (consciously setting out to achieve goals). Adults can help children to develop purpose as well as persistence and resilience by teaching them that mistakes are opportunities for learning. When something does not turn out as expected, this can be exciting and does not have to be disappointing.

**Stage 4: Industry versus inferiority (six to 12 years)**

Children begin to focus on developing culturally-relevant skills. Formal schooling may take up a large proportion of many children's time. In many cultures, children may be involved in food gathering and chores relating to their parents' occupation, e.g. fishing, weaving or making pots. Industriousness (hard work) can also be shown through hobbies such as drawing, music and sports as well as taking on new roles and becoming responsible, e.g. caring for pets and younger siblings. Successful resolution of this stage leads to the virtue of competence.

Failure to support a child's interests and/or provide suitable opportunities to learn new skills may lead to **inertia**, a passive state which can lead to feelings of inadequacy and inferiority. Participating in the wider community can help to develop a sense of industry (hard work) and competence. For example, clubs and societies, religious organisations or voluntary work can all teach children new skills, develop their confidence and provide meaning and connection with shared goals.

**Stage 5: Identity versus identity confusion (10–18 years)**

According to Erikson, **identity** emerges in early childhood and constantly evolves throughout life. However, he believed that the drive to understand who we are and where we fit in becomes particularly important during adolescence. In this stage, young people go through puberty and, in some cultures, they also face changing social expectations. They may be concerned about their future in terms of education, occupation and family. Impression management or shaping the way we appear to others is also an important factor in many young people's lives. This stage can be characterised by confusion if the young person is not sensitively supported in their efforts to reorganise their **self-concept**. This can lead to poor mental health and decrease academic performance.

Successful resolution of this stage leads to the virtue of fidelity, meaning connection with and commitment to certain social groups. Specific beliefs and values become more important and the young person may show their loyalty through meeting obligations to groups that they value,

e.g. family, school, sports clubs. Failure to resolve this stage can lead to repudiation, meaning a sense of defiance and rebellion.

### THINKING LIKE A PSYCHOLOGIST

How would you measure the extent to which a person has resolved the psychosocial crisis at each stage in life?

- What method and/or design would you use?
- What type of data would this provide?
- What are the strengths and weaknesses of this type of data?
- What impact would this have on the scientific status of your investigation?

When you are thinking in this way you are not only improving your understanding of research methods, you are also generating potential evaluation points for Erikson's theory of development.

### Stage 6: Intimacy versus isolation (18–30 years)

Young adults continue the search for identity through connection with others, including friendships and intimate partners. They recognise that compromises may be necessary to achieve this. Absence of close ties (relationships) leads to loneliness, and lack of **social support** can impair coping skills and increase the probability of poor mental health and wellbeing. Isolation and loneliness are also associated with poor diet, lack of exercise and sleep problems, which also increase the probability of poor physical and mental health (Schrempt et al., 2019). Resolution of this stage leads to the virtue of love. Erikson believed that love is possible in earlier stages but that we must resolve stage five (identity versus confusion) to experience genuinely fulfilling and meaningful relationships. This shows how each stage builds on the previous stages and how the development of each virtue can increase the probability of developing the next.

### Stage 7: Generativity versus stagnation (30–65 years)

**Generativity** refers to the need to nurture and care for others. In fact, the virtue that is achieved in this stage is called care, meaning the desire to support and guide others and take responsibility for their growth and development. Raising happy and healthy children is one way of contributing to society but an individual can meet their needs in other ways. For example, the virtue of care can be developed through supporting, mentoring or coaching young people in sport or becoming involved in other types of community groups. Another important aspect of this stage is contributing towards something that will outlast one's own presence in this world (building a legacy). This could include campaigning for a certain cause such as climate change or raising money for charity. Erikson believed that failure to contribute to future generations could lead to **stagnation** and limit further development.

### KEY TERMS

**burnout syndrome:** a state of physical and mental exhaustion resulting from chronic stress

**generativity:** the need to nurture and guide the next generation

**over-extension:** being over-committed or having more to do than is manageable; a cause of stress

**social support:** the reassurance, comfort and help that a person receives from other people that they know, including friends, family, carers, neighbours and community groups

**stagnation:** failing to find a way to contribute to society

### THINKING LIKE A PSYCHOLOGIST

Erikson states that some people participate in too many activities during Stage 7, leading to **burnout syndrome**. He uses the expression **over-extension** meaning that people have so many commitments that they no longer have time for themselves. This can lead to poor mental health outcomes.

Imagine the following directional hypothesis: People who participate in community activities with young people have better mental health outcomes than those who do not.

If we found that this was not the case (they had worse mental health, or mental health was the same in both groups), would Erikson's theory be supported or not? If both outcomes (better or worse mental health) are both predicted by his theory, Popper would argue that theory is unfalsifiable and therefore unscientific.

**KEY TERMS**

**despair:** negative feelings of regret, disappointment or lack of fulfilment which result from poor resolution of the final psychosocial crisis

**disdain:** viewing something or someone as inferior, treating them/it disrespectfully

**integrity:** positive feelings of completeness, fulfilment and acceptance of one's life resulting from successful resolution of the final psychosocial crisis

**wisdom:** deep understanding resulting from both positive and negative life experiences which may provide valuable insights and guidance to others; a virtue achieved through the resolution of the final stage

**Stage 8: Integrity versus despair (65+ years)**

Erikson's final stage is resolved if the person develops **integrity**. This refers to feelings of accomplishment and acceptance. The associated virtue is **wisdom** meaning all the things a person has learned which may be useful to achieve 'a life well lived' and may be useful to others at varying stages in their lives. If a person feels that they have more regrets than accomplishments, they may experience **despair** or hopelessness. They may feel that that time is too short to make positive changes. Too much time ruminating or thinking negatively about the past can lead to poor motivation, and a decline in physical and mental wellbeing. If this stage is not resolved, the person may also experience **disdain** or contempt for others and for their own life.

**Evaluation**

Support for Erikson's theory is provided by a prospective longitudinal study by Johanna Malone et al. (2016). They interviewed people aged 30–47 and found that quality of life in early life stages was associated with cognitive decline in later life and scores on the Geriatric Depression Scale when the participants were 75–85. This supports Erikson's claim that virtues developed earlier in life can increase the probability of positive resolution of crises in later life. However, it is possible that the men in this study were genetically predisposed to depression, and this is why they struggled to resolve psychosocial crises both in mid and later life. Also, the study only included men and it is possible that results from women may differ. This is because women typically live longer than men and may experience later life differently.

**THINKING LIKE A PSYCHOLOGIST**

The findings of Malone et al. (2016) are difficult to interpret. This is because the data is correlational, and so, it is not possible to state that cognitive decline was caused by poor quality of life earlier on. How would you design a quasi-experimental study to reveal whether contribution to the younger generation and/or future mindedness in adulthood is associated with improved mental health in old age?

A weakness is that some people feel that Erikson's theory does not fully explain experiences in old age, especially as people in many areas of the world are living longer than ever before. Erikson's wife Joan added a ninth stage to cover changes that occur in very old age. When she became elderly herself, she decided that 'the role of old age needs to be re-observed' (Erikson, 1998). She explained that the loss of autonomy/independence which comes with physical health issues can lead to loss of self-esteem. She shows how very elderly people may experience shame and doubt and lack of trust in the same way as infants who fail to resolve stages one and two.

Erikson's theory offers many practical ideas regarding ways to support individuals at every stage of life. For example, his theory informed the development of Integrity Promoting Care (IPC), a programme which aims to improve interactions between nurses and patients with advanced dementia. Mona Kihlgren et al. (1993) observed 10 nurses and their patients for three months in a long-stay hospital ward. Compared to a matched-control ward, patients of IPC trained nurses were more cooperative, communicative and involved in decision-making. This shows that Erikson's theory has helped to improve the lives of vulnerable patients and helped nurses to develop skills which may make their jobs easier and more rewarding. This is strong evidence for the applicability of the theory as the observer who coded the videotapes was unaware whether the nurses had received training or not (single blind).

**LINK**

For more holism and reductionism, see page 385.

**LINK**

Revisit page 32 for Vygotsky's theory of cognitive development and page 30 for his theory of language development.

**KEY TERMS**

**imaginary play:** pretend or make-believe activity in which individuals create fictional or fantasy situations; typically seen in children from about three years of age

**self-regulation:** the ability to control behaviour, emotions and thoughts and achieve our goals

**social constructivism:** an approach which explains how knowledge and understanding is actively built through social interaction with others and therefore emphasises the importance of collaboration and discussion in education

**symbolic play:** a type of play in which children deliberately use one object or toy to represent (symbolise) something else, e.g. a box becomes a boat

**VYGOTSKY'S THEORY OF SOCIAL DEVELOPMENT**

Vygotsky described development as a social process in which knowledge is built through interaction with others. As such, his theory is an example of **social constructivism**. Interactions with others are central to a child's rate of progress and to the development of their specific interests and abilities.

Vygotsky emphasised the importance of play, suggesting that skills developed in this context frequently transfer to other contexts and settings. For example, children as young as 18 months begin to develop their social skills through **symbolic play**. Gradually they begin to show **imaginary play**, role playing social situations based on their experiences and exploring made-up situations. Despite the fantasy element, children typically conform to the norms of the characters that they are playing, e.g. the teacher, shop assistant. Vygotsky believed this was central to the development of **self-regulation**. In imaginary play, children have the opportunity to modify their behaviour to suit the situation, including conforming to ideas of other children/peers. They must also overcome personal impulses/urges and follow the 'rules' of the situation/game. These are much-needed skills, especially for children entering formal education.



▲ Children are often able to show more mature behaviour when engaged in pretend play – how might the child show awareness of social norms while playing with the tea set?

**Evaluation**

Vygotsky's claim that imaginary play helps to develop self-regulation is supported by research evidence. For example, Jerome Singer (1961) showed that children aged six to nine who preferred fantasy/imaginary play were able to wait twice as long as children who did not enjoy fantasy/imaginary play. All children were told that their ability to wait would demonstrate whether they would make a good astronaut. Despite all children being given the same reason for waiting, those that prefer fantasy/imaginary play demonstrated significantly greater will power. However, these findings suffer from bidirectional ambiguity. While it is possible that engaging in a lot of high fantasy play provides more opportunities to develop self-regulation, it is also possible that children who are better at self-regulation find this type of play more rewarding and therefore engage in more of it.

**LINK**

For more on bidirectional ambiguity, see page 214.



▲ Figure 3.3 Research suggests that children who engage in more fantasy play are better at waiting: a measure of self-regulation.

Not everyone believes pretend play is as essential to self-regulation as Vygotsky suggests. Angeline Lillard et al. (2013) suggest that there is no causal link between pretend play and self-regulation, and any positive effects are limited to a specific subset of children. They highlight numerous methodological problems with the supporting literature including small samples from mainly middle-income families and experimenter bias, e.g. researchers knew children's play preferences before they assessed self-regulation. Furthermore, studies often define imaginary play in different ways and use differing measures of self-regulation making it difficult to draw comparisons.

However, there is some support from a well-controlled experimental study by Rachel White and Stephanie Carlson (2015) called What would Batman do? Five-year-olds who were encouraged to role play characters such as Batman showed improvement in **executive functioning**, an important aspect of self-regulation. The researchers concluded that **self-distancing** in pretend play (i.e. taking on the views of a different character) may help improve self-regulation. This suggests that Vygotsky may have been right that pretend play can promote social development in typically developing children.

Vygotsky claimed that scaffolding from more knowledgeable peers helps children to progress through their zone of proximal development and that this is true for social as well as cognitive development. For example, preschool children who engaged in more pretend play and positive social interaction with older siblings showed more advanced emotional development (Dunn et al., 1991). However, Amy Ogan (2008) found that a group of children who engaged in unstructured free play made greater gains in self-regulation than those who received an adult-scaffolded play intervention. This shows that play opportunities that promote autonomy, choice and interaction with other children may be more beneficial to social development than playing one-to-one with an adult.

Based on Vygotsky's theories, Tools of the Mind is a preschool play intervention created by Elena Bodrova and Deborah Leong (2007). This intervention directly targets self-regulation, a skill which predicts school performance better than IQ (Duckworth & Seligman, 2005). The intervention includes children working with a teacher to plan make-believe play sessions. Teachers scaffold the children's play through modelling. The children have one hour of

## KEY TERMS

### **executive functioning:**

cognitive processes including planning, organising, sustaining attention, regulating emotions and adapting to changing situations, critical for goal-directed behaviour and problem solving

### **self-distancing:** moving away from one's own egocentric viewpoint

**KEY TERMS**

**anxiety:** feelings of tension and worry in the absence of a specific stressor, but associated with worries regarding future events

**effect size:** a measure that describes the size of the difference between two groups; in a simple experiment, effect size can be calculated by dividing the difference between the two mean averages by the standard deviation of all scores from both groups/ conditions

**meditation:** a technique that encourages focused attention or relaxation and can be used to achieve a state of mindfulness

**mindfulness:** awareness that arises through non-judgmentally and deliberately paying attention to the present moment

**moderated:** if the relationship between two variables is moderated by another variable, it means the direction or strength of the relationship change is dependent on the moderator; in other words, if a relationship is mediated by another variable, this means that the mediator causes changes in the other two variables

**stress:** negative feelings that are triggered when an individual feels that demands placed upon them outweigh their ability to cope

make-believe play per day based on their planned scenarios. This programme can increase executive function. However, the **effect size** is **moderated** by the teacher's level of experience and their own psychological wellbeing, which can impact fidelity (Goble, 2021).

**EXAM TIP**

Vygotsky is mentioned three times in Topic E. If you are asked to describe or evaluate his theory of social development, focusing on play is a good idea. However, in a longer mark allocation question, you may also wish to mention zones of proximal development, scaffolding and private speech, as all three areas of development (cognitive, language and social) cross over.

**MINDFULNESS ENHANCING SOCIAL, EMOTIONAL AND COGNITIVE DEVELOPMENT**

**Mindfulness** is a state of consciousness in which the individual is fully aware of the present moment. It is a common cultural practice in many areas of the world but has gained popularity in the west in the past few decades. The person focuses on sensations in the here and now, freeing themselves of the distractions of competing thoughts about the past and future. The state is thought to be one that all humans can achieve but some people may require more practice than others.

In the 1970s, Professor Jon Kabat-Zinn developed an eight-week programme called Mindfulness Based Stress Reduction (MBSR). This programme teaches people to increase mindfulness through **meditation**, a common practice in many world religions to help people to gain a better understanding of their faith and themselves. Kabat-Zinn recognised that these techniques could help non-religious people to improve their wellbeing, especially those suffering from **stress**, depression, **anxiety**, chronic pain and/or substance abuse.

**Mindfulness in schools**

In the early part of the 21<sup>st</sup> century, many people in the Western world recognised that mindfulness could be used to encourage positive social, emotional and cognitive development in children. Instead of teaching it to adults with poor mental health, it could be used as a preventative strategy. If children are taught techniques to reduce stress, this should help them to maintain positive mental wellbeing throughout their lives. Many supporters believed mindfulness should be taught in schools as a way of developing self-awareness and the ability to manage emotions. It was believed that this could also lead to improvements in concentration that could unlock academic potential and reduce behavioural problems.

Kabat-Zinn's MBSR programme has been modified for children of different ages. For example, Mindfulness-Oriented Meditation (MOM) has been used to encourage awareness of the breathing, bodies and thoughts in seven- and eight-year-old Italian schoolchildren (Crescentini et al., 2016). Similarly, the Mindfulness in Schools Project in the UK provides evidence-based teacher training and resources for use with children from as young as three up to the age of 18.

**Evaluation**

Research has demonstrated positive effects of mindfulness on social and emotional development and cognitive development.

**Effects on social and emotional development**

Supporters of mindfulness claim that it can improve children's social and emotional development. This claim is supported by evidence from Kimberly Schonert-Reichl and Molly Lawlor (2010). They found that Canadian children aged nine to 13 who participated in mindfulness sessions three times a day rated themselves as more optimistic and showed self-concept improvements compared with a matched control group who did not participate in the Mindfulness Education (ME) programme. Teachers also rated the ME group as having improved classroom behaviour. However, the teachers who completed the rating scales also delivered the ME sessions. This

reduces the objectivity of the findings regarding the impact of mindfulness on social and emotional competence. There was also no follow-up, so the long-term benefits are unknown.

A similar study in the UK showed that mindfulness activities do not have to be timetabled every day to have a positive effect. In fact, the greatest improvements were made when children embedded mindfulness into their lives both inside and outside school. Felicia Huppert and Daniel Johnson (2010) found that boys aged 14 to 15 benefited from just one 40-minute mindfulness lesson per week for four weeks. Those who practised most showed greatest wellbeing improvements and boys with emotional difficulties benefitted the most.

### Effects on cognitive development

A meta-analysis by David Klingbeil et al. (2017) demonstrated the positive impact of Mindfulness-Based Interventions (MBI) on cognitive development. Data from 76 studies was analysed including over 6,000 children and young people in various settings. MBIs had small but positive effects on academic achievement, attention and cognitive flexibility. Interestingly, these effect sizes increased with time in the 24 studies with longitudinal designs. However caution must be exercised when applying these findings in schools. A more recent meta-analysis by Darren Dunning et al. (2022) shows that MBIs appear to have a positive effect on executive functioning and social and emotional development, but the studies that used active control groups showed that MBIs only led to significant improvements in depression and anxiety and not for cognitive/academic skills.

### LINK

For more on active control groups, see page 81.

For more on limitations of mindfulness research, see page 364.

For more of cognitive flexibility see page 300.

### General evaluation

As detailed further on page 53, schools should be cautious when making decisions about MBIs. The largest and most recent investigation, called the MYRIAD project, found no significant difference in the mental health and wellbeing of children in the MBI group compared with those in the control group. Mindfulness was not easy to introduce into the schools unless the staff were fully committed, teachers required a lot of training and only a small minority were able to deliver really effective lessons (Crane et al., 2020).

## ACTIVITY 1

Copy and complete the table showing the strengths and weaknesses of using mindfulness to enhance children's social, emotional and cognitive development. Using symbols and diagrams can help to cut down on the number of words you use and make your revision notes easier to remember. You don't need to remember the names of all the researchers, but knowing what they found is useful.

TABLE 3.2: SAMPLE REVISION TABLE – CAN MINDFULNESS ENHANCE CHILDREN'S DEVELOPMENT?

Type of development	Strengths: Supporting evidence	Weaknesses: Limitations of the study
Social	Schonert-Reichl and Lawlor (2010) showed positive effects on socially competent classroom behaviour.	Poor validity: Teacher reports used as evidence may be biased as they knew who received the intervention and who did not.
Emotional		
Cognitive		

## WIDER ISSUES AND DEBATES

### Issues relating to socially sensitive research

Research in this area could be seen as socially sensitive as the contradictory findings mean teachers and parents may have differing views about the use of mindfulness in schools. People who disagree with its use may be seen as difficult or disruptive, making it a socially sensitive area. However, these people may simply be better informed about possible negative effects. For example, some research shows an association between mindfulness and relapse in people who have had previous depressive episodes (Ma & Teasdale, 2004) and other studies suggested links to increased stress, anxiety, dissociative symptoms, poor sleep and even psychotic episodes (Shapiro et al., 1992; Britton, 2019). In areas where research is ongoing, it is important that school leaders use critical thinking to consider the pros and cons of new interventions. This is because outcomes are seldom easy to predict due to complex interactions between social, cultural, political and economic factors.

## THINKING LIKE A PSYCHOLOGIST

You may have participated in Mindfulness Based Interventions in your school or college. If so, what was the experience like for you?

Imagine how it might feel for a child or young person who has experienced negative thoughts or feelings during these activities.

- How might the child or young person feel about school in general if they know that these exercises are a compulsory part of the curriculum?
- What if you were a teacher working at a school that has introduced whole school mindfulness and you have experienced negative outcomes?
- What impact might this have on you personally and professionally?

## SKILLS

TEAMWORK, REASONING/  
ARGUMENTATION,  
COMMUNICATION

## ACTIVITY 2

Why not have a class debate about mindfulness?

Randomly divide the class into two groups; one side should argue that 'mindfulness should be embedded within the school curriculum as a way of enhancing social, emotional and cognitive development'. The other should argue that 'mindfulness should not be a compulsory part of education'.

Take time to work as a team to develop your arguments, including claims, evidence and reasoning. Try to anticipate ways that the other groups might try to attack your arguments. Make sure you have a clear and well-evidenced defence ready! Likewise, think about how the other group might support their arguments and be ready with plenty of counterarguments to undermine their claims and demonstrate flawed logic in their reasoning.

Why not organise your debate like a criminal trial in which whole-school mindfulness interventions stand accused of damaging children's wellbeing?

**CHECKPOINT**

1. How does Erikson believe that a person acquires developmental virtues?
2. If a child is four years old, what psychosocial stage are they in and what is the associated psychosocial crisis?
3. What term did Erikson use to describe people who are too productive in the generativity versus stagnation stage?
4. Why does Vygotsky believe that pretend play is so important to social and emotional development?
5. What were the two groups that were compared in the classic study by Singer (1961) in which children were asked to stand still to show what a good astronaut they would be?
6. What is the name of the Vygotskian play-based intervention that was developed by Bodrova and Leong?
7. Why do some people think mindfulness might increase academic achievement?
8. Which boys benefited the most in the study by Huppert and Johnson (2010)?
9. Can you name two problems which reduce the validity of mindfulness research?
10. Why do some people think that mindfulness should not be part of the school curriculum?

**EXAM PRACTICE**

1. Outline what is meant by mindfulness. (2 marks)
2. Explain one strength and weakness of Erikson's stages of psychosocial development. You must refer to psychology as a science in your answer. (2 marks)
3. Ezekiel is 36 years old and his wife Darcy is 32. They are unable to have children and both have coped with this in different ways. Ezekiel coaches a youth basketball team, where the players are all under 16. He has also started training to run a marathon to raise money for the local children's ward. Darcy feels responsible for them not having a baby of their own. She was writing a novel but lately can't find the motivation to continue. She feels tired all the time and has started seeing less of her sister.  
With reference to Erikson's stages of psychosocial development, explain Ezekiel and Darcy's behaviour and how this might affect them as they get older. (6 marks)
4. Evaluate Vygotsky's theory of social development. You must refer to practical applications in your answer. (8 marks)

# CHAPTER 4 STUDIES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate one classic study:
  - Van IJzendoorn and Kroonenberg (1988)
    - Cross-cultural patterns in attachment; A meta-analysis of the Strange Situation Procedure (SSP)
- describe and evaluate one compulsory contemporary study:
  - Cassibba et al. (2013) – Attachment the Italian way (Italy)
- describe and evaluate two optional contemporary studies (you must study one of these for your Paper 3 exam):
  - Ashdown and Bernard (2012) – Can explicit instruction in social and emotional learning skills benefit the social and emotional development, well-being and academic achievement of young children?
  - Ding et al. (2014) – The relation of early infant attachment to attachment and cognitive development outcomes in early childhood.

## GETTING STARTED

In this section, you will learn about some key studies in detail. Before you start, why not try designing a key study of your own?

- Roll a dice to decide which area of the content your study will be about: one for attachment, two for cognitive development, three for language development, four for social, five for emotional and six is a free pick of any area of development.
- Roll again to decide whether you will use qualitative (odd numbers) or quantitative data (even numbers), primary (odds) or secondary data (evens).

Think about what your aim will be and whether you will be testing a specific hypothesis – if so, how will this be informed by previous research that you have learned about in this unit? Next, think about your methodology including sampling, design, procedure, controls, ethics, and how you will collect and analyse your data. Pitch your study designs to your class and have a vote to decide on the winner, e.g. the study that has more strengths than it has weaknesses.

This activity should get you thinking critically about research in readiness to read the key studies and understand the importance of the details in terms of the way the findings are evaluated.

Developmental psychologists need certain skills to get the best out of children of different ages. What skills and training do you think a researcher would need to ensure children perform to the best of their ability during assessments?



**LINK**

Learn more about meta-analysis page 4

**CLASSIC STUDY****VAN IJZENDOORN AND KROONENBERG (1988) CROSS-CULTURAL PATTERNS OF ATTACHMENT: A META-ANALYSIS OF THE STRANGE SITUATION****Background**

Marinus Van IJzendoorn and Pieter Kroonenberg stated that we should be cautious when drawing conclusions from studies such as those described on pages 20–21. The studies use small samples, and the findings often did not match the distribution of attachment types in other parts of the same country, for example, attachment types differed in northern to southern Germany.

The researchers were curious about the size of intra-cultural differences (within one culture) compared with inter-cultural differences (between two or more cultures).

**THINKING LIKE A PSYCHOLOGIST**

You may rightfully feel a little confused about why some researchers use the term culture to reflect whole nations/countries. Countries such as the US are so large that the people living there display significant cultural differences from one another. This is also true of people living in urban versus rural areas. This is why van IJzendoorn and Kroonenberg thought it was important to explore how attachment patterns vary within the same country but in different regions too. This allowed them to study intra-cultural differences. It would perhaps be better to call these intra-national, to acknowledge that each nation or country includes families from wide ranging cultural backgrounds.

**LINK**

Refresh your memory of Ainsworth's Strange Situation Procedure and the findings of Ainsworth et al. (1978) page 16.

**SKILLS**

Critical Thinking

**Aim**

To investigate intra-cultural and cross-cultural similarities and differences in the distribution of attachment types, using the findings of Ainsworth (1978) as a baseline for comparison. They aimed to overcome the problems of small unrepresentative samples that do not represent the diversity within a country.

**ACTIVITY 1**

Researchers use inferential statistics to determine whether their findings are statistically significant. To decide which test to use, they must answer three questions:

- Are they testing an association between co-variables or a difference between groups/conditions? (see page 56)
- What design was used? (see page 57)
- What level of measurement was the data? (see page 57)

Can you work out which test the researchers would have used in this study?

They were investigating whether differences exist in the pattern of attachment types of infant-mother dyads in eight different countries. The design is independent groups/measures as culture/nation is the independent variable. The data is nominal as the mother-infant dyads were categorised into either Type A, B or C.

**MATHS TIP**

A Type 1 error (see Student Book 1, page 114) means that a researcher wrongly rejects their null hypothesis (this decision is sometimes called a false positive). They might think that there was a significant difference between the groups or conditions but really the difference was probably just chance. Van IJzendoorn and Kroonenberg used a statistical method called the Bonferroni approach to reduce the likelihood of a Type 1 error in their findings. This increases the validity of their findings.

**Method or design**

A meta-analysis of 32 studies conducted in a variety of countries including the US, the Netherlands, Germany and Japan. The researchers also included one study of Chinese Americans resident in the US. Each study used the Strange Situation Procedure (see page 20) to classify the mothers and infants as Type A, B or C.

**Sample**

The meta-analysis included data from 1990 pairs of mothers and infants. The 32 studies included in the meta-analysis all used:

- infants who were aged two years old or younger
- samples of 35 or more pairs
- typically developing infants (e.g. none with learning disabilities), who did not have a twin
- infants who had only participated once (studies with overlapping samples were excluded).

**Procedure**

Large multinational databases were searched using the key term 'attachment' to find suitable Strange Situation Procedure replications. As the researchers were using secondary data (see Student Book 1, page 41), there was no procedure as such. They simply identified suitable data sets (see above) and re-analysed the raw data as one large data set. They identified whether differences between the distribution of attachment types (Types A, B and C) was greater than expected by chance alone using a variety of statistical methods, e.g. chi-squared test (Student Book 1, pages 263–265) and a technique called correspondence analysis to compare the distribution of attachment types within and between countries.

**Results**

Type A was the most common attachment type (the mode) in seven out of the eight countries. See Table 4.1 for percentages for overall percentages.

TABLE 4.1: DISTRIBUTION OF ATTACHMENT TYPES

Attachment type	Percentage of infants receiving this classification when observed in the SSP with their mothers
B	65%
A	21%
C	14%

The more individualist cultures such as the Netherlands and Germany had fewer Type C and more Type A classifications than expected by chance alone. The opposite was true in the more collectivist cultures. In Japan, for example, there were no Type A classifications at all.

In the Chinese American sample (Li-Repac, 1982) there were fewer Type B attachments than expected (50%) and Type A and C were distributed equally (25% in each category).

Intra-cultural variation (differences in attachment patterns from studies conducted within the same country) was 1.5 times the level of variation between cultures. The variation was particularly large amongst the studies conducted in Germany and the US. Although the combined US samples matched the global distribution, there were also wide intra-cultural differences, including several where there were more Type C than Type A classifications.

### LINK

See page 61 for a detailed data table. You do not need to remember all the figures, but they are useful for practising your own data analysis skills.

### Conclusions

'Great caution should be exercised' (page 154) when generalising from small samples to entire nations, due to wide intra-cultural differences. Unusual results need to be replicated before using them to draw conclusions about cross-cultural differences in attachment. 'Relatively modest cross-cultural differences' may be due to Western mass media which may encourage certain approaches to parenting.

### Evaluation

The researchers carefully selected studies to make sure that they were similar in terms of key variables which might have affected the results. For example, all children were aged two and under; there were no children with learning disabilities and all infants were observed with their mother. This made the studies more comparable, increasing validity. However, socioeconomic status (SES) was a confounding variable. Some studies included professional families (high SES), others included families for low-income areas. This suggests that intra-cultural differences may have resulted from economic rather than cultural factors.

Using secondary data allowed the researchers to gather a large, culturally diverse sample of nearly 2000 infants, increasing the external validity. This was particularly useful with regard to the US data which combined 18 studies and therefore represented the distribution of attachment types in multiple states (regions).

There were no studies from South America, Africa or Eastern Europe and only one study from Asia, meaning the findings lack population validity. Also, there may have been greater intra-cultural and cross-cultural differences if the analysis had included studies from remote regions that are less influenced by globalisation, e.g. Western media.

### KEY TERM

**imposed etic:** concepts, theories and/or testing paradigms developed in one culture are used to understand behaviour of people in another culture

The findings of Japanese studies may lack validity due to the use of an **imposed etic**. Infants may have been classified as Type C due to extreme separation distress when their mothers left the rooms. However, this reaction may not represent their typical behaviour towards their mothers and may have been a temporary reaction to the testing situation, especially in infants from very traditional families who have not experienced such separation before. However, there were no ethical issues in the current study as secondary data was used, meaning no additional infants were exposed to the Strange Situation Procedure.

### SKILLS

ANALYSIS, CRITICAL THINKING

### ACTIVITY 2

Van IJzendoorn and Kroonenberg's study relied entirely on quantitative data which means that the meanings behind the observed behaviours are ignored.

- How would you conduct a qualitative/ethnographic study to investigate cross-cultural differences in attachment?
- How would you analyse the data?

See page 74 for more on ethnographic studies in developmental psychology and page 355 for qualitative data analysis.

### THINKING LIKE A PSYCHOLOGIST

What, if anything, do van IJzendoorn and Kroonenberg's findings tell us about:

- Bowlby's theory of attachment
- Ainsworth's caregiving hypothesis
- the role of nature and nurture in developmental psychology?

The study by Cassibba et al. (2013) is a compulsory study – you need to be able to answer questions on it in the Paper 3 exam.

### KEY TERMS

**dismissive:** an adult attachment style in which the individual minimises the importance of relationships, avoids emotional intimacy, is self-reliant and downplays the role of early attachment experiences

**interview schedule:** a list of predetermined questions that will be used in the interview

**preoccupied:** an intense adult attachment style in which individuals are highly dependent on their partners and have a high need for connection with and reassurance from others

**Type D (disorganised/disoriented):** a fourth infant attachment type characterised by odd, disorganised and conflicting behaviour patterns in the parent's presence (Main and Solomon, 1986)

**unresolved:** an adult attachment type associated with negative feelings relating to past trauma including loss and abuse

### CONTEMPORARY STUDIES

#### CASSIBBA ET AL. (2013) ATTACHMENT THE ITALIAN WAY

##### Background

Italy is a country with strong individualistic Western values in some regions, but also strong family values, a more collectivist trait. Rosalinda Cassibba and her colleagues wondered how these values might affect the distribution of attachments as previous research highlights the role of individualism-collectivism in predicting the ratio of Type A to Type C infants. They also believed that high levels of religiosity (the extent to which a person identifies with a specific religion) might affect adult attachment types.

##### Aim

To investigate whether the distribution of child and adult attachment classifications in Italy:

- is similar to the global distributions, i.e. whether secure attachment is the most commonly occurring attachment type (the mode)
- differs for people with and without psychological disorders
- demonstrates a gender difference.

To investigate whether Italians have fewer unresolved attachments than people in other nations due to their strong Catholic faith.

##### Method or design

This meta-analysis examined data from 67 studies conducted between 1990 and 2009. It included 17 Italian replications of the Strange Situation (see page 60) and 50 studies using the Adult Attachment Interview (Main, Kaplan & Cassidy, 1985) or a similar **interview schedule** used to classify adult attachment type.

##### Sample

627 Italian infants/children and 2258 adults.

Strange Situation Procedure (SSP) studies were included if they classified infants as:

- Type A (avoidant), B (secure), Type C (resistant/ambivalent)
- Type A, B, C and **Type D (disorganised/disoriented)**
- Type A and C combined into 'insecure attachment' versus Type B (secure attachment).

The 50 Adult Attachment Interview (AAI) studies were chosen because they classified people as either:

- **Dismissive**, Secure, **Preoccupied**
- Dismissive, Secure, Preoccupied and **Unresolved**.

Overlapping samples were excluded so that data from the same participant only appeared once in the combined data set. Data from unpublished studies (see below) was only used if one of the researchers was known to be a reliable coder for the SSP/AAI or inter-rater reliability was at least 0.75.

### **Procedure**

Studies were selected from a large database using the following search terms: 'Italian', 'attachment' and 'Strange Situation Procedure'. Some unpublished studies including doctoral dissertations (PhD student work) and conference papers were included.

### **Cross-cultural comparisons**

The researchers combined the attachment type data from the various Italians studies and compared the distribution of infant-mother attachment types with the combined data from 21 non-clinical samples from the US (Van IJzendoorn et al., 1992). The distribution of adult attachment types from the Italians samples was compared to data from the non-clinical US samples published by Bakermans-Kranenburg and Van IJzendoorn (2009).

### **Intra-cultural comparisons**

The researchers examined the combined data from the Italian studies and looked for differences between the distribution for infant boys and girls, adult men and women, adolescents versus adults, and people with and without psychological disorders. Chi-squared analyses were performed to identify significant differences.

## **Results**

### **Mother-infant attachment types**

TABLE 4.2

	Strange Situation Procedure (SSP) studies Mother-infant attachment types		
	Type A	Type B	Type C
Baseline data	21%	67%	12%
Non-clinical	33%	53%	14%
Clinical/'at risk' (infants)	40%	32%	28%

The majority of the non-clinical Italian children were classified as Type B. However, the overall percentage is much lower than in the US. More children were classified as Type A in Italy than in the US. Not as many were classified as Type C, but the percentage was higher than in the US. In studies where the researchers had also included the Type D classification, there were more Type D classification in Italy (22 per cent) than the US (15 per cent).

In the clinical sample, only 32 per cent were securely attached and the majority of the insecurely attached infants were Type A (40 per cent). In studies that included the Type D classification, the distribution was 28 per cent Type A, 27 per cent Type B, 10 per cent Type C, and 35 per cent Type D. The infants that were least likely to be securely attached were those whose mothers had psychological disorders or were considered to be 'at risk' (Type B; 28 per cent).

### Adult attachment types

TABLE 4.3

	Adult Attachment Interview (AAI) studies – Adult attachment types		
	Dismissive	Secure	Preoccupied
Baseline data from non-clinical American mothers	23%	58%	19%
Non-clinical mothers	22%	59%	19%
Non-clinical fathers	35%	46%	19%
Combined clinical/'at risk'	35%	38%	27%

In the adult samples, the data was very similar to the baseline data from American mothers.

The majority of mothers and fathers were securely attached. In the insecure attachment types, the distribution between dismissive and preoccupied was similar for mothers; however, for fathers they were more likely to be dismissive than preoccupied. However, statistical tests revealed no significant intra-cultural gender differences. In studies that also used the unresolved (Type U) classification, this applied to only 10 per cent of non-clinical Italian mothers but 18 per cent of non-clinical American mothers.

In the clinical/'at risk' group (adults and adolescents combined), the distribution was similar across the three attachment types with only 38 per cent securely attached. In those studies that also used the unresolved rating, this accounted for 33 per cent of the sample. Parents of children with psychological disorders were particularly over-represented in the unresolved category (46 per cent). This was also true of parents in families exposed to violence (42 per cent). In the studies that did not use the Type U classification, 52 per cent of parents in violent families were classed as dismissive.

### Conclusions

Like the United States, the majority of Italian infants and adults are securely attached. Cross-cultural differences are modest. This supports the universality of attachment behaviours which typically lead infants to form secure bonds with their caregivers. However, there was also evidence for the role of nurture in shaping insecure attachment. For example, Type A mother-infant attachments were higher in Italy than the US.

The researchers concluded that this may result from differing beliefs about child development which determine child rearing practices. They discuss various research that highlights differences between American and Italian mothers (Cassibba et al., 2013, page 53). For example, American mothers tend to believe that they are responsible for how their children develop, whereas Italian mothers believe that parenting has less of an overall effect. Also, Italian mothers believe that infants should show early social maturity. They try to encourage independence and participation in the family, rather than dependence on the mother. These differences may affect how the mothers interact with their infants.

Another cross-cultural difference was the low percentage of unresolved adult attachments in the non-clinical sample compared with the US. The researchers conclude the strong Catholic faith which is common in Italian adults helps them to process trauma and loss.

### Evaluation

When selecting studies that used the adult attachment interview data, the researchers only included studies with inter-rater reliability of .75. This means that the studies included in the meta-analysis all classified the adult participants' attachment type in a very similar way.

**KEY TERMS****file drawer effect:**

studies in which the null hypothesis is retained do not get selected for publication, meaning published literature appears more supportive of certain theories/concepts than may actually be the case

**publication bias:** journals are less likely to publish articles which do not have statistically significant findings

**temporal validity:** the extent to which findings of a study can be applied to people from other time periods/eras; when research has weak temporal validity it may be described as era-bound

**LINK**

For more on socially sensitive research see page 393

This suggests that the researchers would have had a high level of agreement regarding whether someone was a Type D or E for example, therefore reducing concerns about subjectivity of the adult attachment type classifications.

The researchers selected the attachment studies using specific search terms, but this may mean that findings are affected by experimenter bias. They may have excluded studies which they thought would not support their hypotheses and included studies that they thought would lead to the expected results (e.g. the unpublished findings for the doctoral research and conference papers). This subjectivity decreases the scientific status of the findings. However, use of these unpublished sources may have increased the validity of the findings as it avoids problems with **publication bias** and the **file drawer effect**, i.e. papers that do not support cultural differences being rejected by journal editors and, therefore, not being included in meta-analyses. As a result, this study may give a more balanced view of attachment behaviours in Italy than previous research.

However, using unpublished findings may mean that the conclusions about attachment types in Italy may not be valid. This is because some of the studies would not have been independently peer reviewed, so there may have been flaws in the way that the SSP or the AAI data was coded that had not been identified.

The study may lack **temporal validity** as it only included SSP and AAI data from 1990 to 2009. This means that the attachment type distribution found in this study may not match with findings from more modern studies. This is because cultural norms may have changed in Italy over the period, for example people may be less religious and/or more influenced by globalisation, especially due to the rise in the use of social media from 2012 onwards.

Although the researchers do not come into contact with the participants, which reduces some of the ethical issues, studies such as this may still face ethical issues in the way that they report the data. This is a study which could be seen as socially sensitive. This is because groups of people such as 'Italians', 'at risk mothers' or 'Catholics' may be viewed differently in society because of the research findings. It is therefore critical that researchers do not make claims that are not supported by statistical analysis. For example, the meta-analysis claimed that Catholic faith may be a reason for the lower level of unresolved attachments than in the US, but the study did not measure religiosity. Such claims are socially sensitive as they may be used to support certain policies and political objectives.

A strength of this study is that it demonstrates the importance of providing additional support for parents with psychological disorders, especially those who may also have a child with psychological disorders and/or those families where there are cases of violence. Infants in these groups were more likely to have insecure attachments. This suggests that these families should be prioritised for additional support. For example, parenting intervention programmes (see page 364) should be offered to help these families to develop secure attachments.

**WIDER ISSUES AND DEBATES****Gender issues in psychological research**

Cassibba et al. explain that Italian women have very low social status compared with women in countries such as the US, Australia and Japan. This means that gender roles are more distinct from one another. This is reflected in beliefs about parenting of boys versus girls. Italian parents tend to value early independence and social maturity more than parents in some other cultures, but these traits are encouraged even more in boys. The researchers wondered whether this might lead to gender differences in the distribution of attachment types. Ultimately, they did not find a significant gender difference. Sometimes, when researchers expect to find a gender difference, they may be more likely to find one. This is known as **alpha bias**. This may result from unintentional researcher bias. This may be less likely in studies which make use of secondary data as researchers and participants do not come into contact.

**LINK**

For more on alpha bias see page 347.

**ASHDOWN AND BERNARD (2012) CAN EXPLICIT INSTRUCTION IN SOCIAL AND EMOTIONAL LEARNING SKILLS BENEFIT THE SOCIAL AND EMOTIONAL DEVELOPMENT, WELLBEING AND ACADEMIC ACHIEVEMENT OF YOUNG CHILDREN?**

Ding et al. (2014) and Ashdown & Bernard (2012) are optional studies. You must be able to answer questions on one of them in the Paper 3 exam.



► Figure 4.1 The You Can Do It! Education programme teaches socioemotional skills, using a wide range of child friendly activities including the use of puppets: Meet Pete Persistence, Ricky Resilience, Oscar Organisation, Connie Confidence and Gaby Get Along!

### Background

Previous research has shown that social emotional learning programmes can be effective with preschoolers (Payton et al., 2008) and may also have a positive effect on cognitive and academic performance (Nelson et al., 2003). Not everyone agrees that teaching programmes such as this are effective, and so, the researchers decided to put one such programme to the test with young children in Australia.

The programme was called the You Can Do It! (YCDI) Education programme (Bernard, 2002). Building on ideas from Vygotsky (see pages 32, 33 and 39), it focuses on thinking and self-talk (inner speech). Structured lessons, activities, songs and posters are used to develop five competencies: Confidence, Persistence, Organisation, Getting Along and Emotional Resilience (see Figure 4.1). These areas are developed through twelve thinking 'habits' including 'I Can Do It', 'Giving Effort', 'Setting Goals' and 'Being Socially Responsible'. Before this study was published, there was no research to support the effectiveness of this programme with four- to seven-year-olds, although it had been shown to be effective with older children (Bernard & Walton, 2011).

### Aim

To evaluate the efficacy of the YCDI on the social-emotional development, wellbeing and academic achievement of 99 Preparatory (preschool) and Grade One students attending a Catholic school in Melbourne, Australia.

They expected that relative to the control group, children in the YCDI group would show greater:

- increases in social and emotional competence and wellbeing
- decreases in problem behaviours
- increases in academic achievement including independent reading.

**LINK**

See page 338 for more on randomised control trials (RCTs).

**Method or design**

A randomised controlled trial with independent measures; one Preparatory (preschoolers; age five) and one Grade One class (age six) were randomly allocated to receive the YCDI programme; the other Preparatory and Grade One classes were the control group. They received the YCDI programme once the study had ended.

**Sample**

45 female and 54 male five- to six-year-olds from a Catholic school in the western suburbs of Melbourne, Australia. The children were mainly from low socioeconomic backgrounds. The majority spoke English as a second language. Other languages spoken at home included Vietnamese and languages from China, Africa, Europe and the Pacific Islands.

**Procedure**

The YCDI group received three 20-minute sessions per week over a ten-week period. Six lessons were spent focusing specifically on confidence, persistence, organisation, getting along and emotional resilience. YCDI lessons were delivered by the children's usual classroom teachers, who received two hours of training.

Teachers completed two questionnaires for each child before and after the YCDI programme. Positive and negative emotions, resilience, coping skills and values were assessed using the ACER Well-being Survey (Bernard et al., 2009) (see Table 4.4). The teachers rated their agreement with 50 statements on four-point Likert scales to indicate their agreement.

TABLE 4.4: SAMPLE ITEMS FROM THE ACER

Sample items based on the ACER	What was being assessed?
'The student appears to be generally happy and cheerful.'	Positive emotions
'The student appears to say "mean" things to intentionally hurt someone else.'	Negative emotions
'The child appears to control their behaviour when they are very angry and feels like lashing out.'	Resilience and coping skills
'The child appears to value doing things to help others.'	Social skills and values
'The child appears to raise their hand to answer a difficult question even when unsure if the answer is correct.'	Work management and engagement skills

Social skills, problem behaviours and academic competence were measured using the Social Skills Rating System (SSRS) (Gresham & Elliot, 1990). This included 30 statements to measure cooperation, assertion and self-control, each rated on a three-point Likert scale (0 = the child never behaves in this way, 3 = the child very often behaves in this way). Eighteen statements measured problem behaviours categorised into three groups: **externalising behaviours**, **internalising behaviours** and **hyperactivity**. Finally, nine statements measured academic competence on a six-point Likert scale, which compared them to their classmates (e.g. 0 = lowest 10 per cent in the class, 6 = highest 10 per cent in the class).

TABLE 4.5: SAMPLE ITEMS FROM THE SSRS

Sample items based on the SSRS	What was being assessed?
'Introduces themselves to new people without being told'	Social skills
'Argues with others'	Problem behaviours

The teachers also rated the children's independent reading skills on a scale from 0–28 (five is average for Prep students, 20 for Grade One and 28 for Grade Two).

**LINK**

For more on questionnaires, Likert scales and quantitative data, Student Book 1, page 37.

**KEY TERMS**

**externalising behaviours:** the expression of negative emotions through observable actions including being disruptive, aggressive or defiant

**hyperactivity:** excessive energy which leads to impulsivity, restlessness, difficulties in focusing attention and concentrating on tasks

**internalising behaviours:** negative emotions are directed inward and include anxiety, depression, or social withdrawal

## Results

Significant improvements in social-emotional competence and wellbeing were observed in the YCDI group compared to the control group for both Prep and Grade One students. The Grade One YCDI Group showed a significant decrease in problem behaviours compared to the control group, although no reduction was seen in the Prep class. Social skills remained unchanged after YCDI for Prep class, but Grade One pupils not receiving YCDI showed a significant decrease in social skills from pre- to post-test. Independent reading improvements were generally unrelated to YCDI in both classes. However, there was a notable improvement in independent reading for children with the lowest reading ability (pre-test) who received YCDI compared to those who did not. Boys displayed more problem behaviours and lower levels of social-emotional competence, wellbeing and social skills than girls overall. However, the effectiveness of YCDI did not differ based on gender for any of the measures.

### MATHS TIP

You might be asked to explain what the mean and standard deviation tell us about a specific data set. All of Ashdown and Bernard's results are shown here (see Table 4.6) so that you can practise interpreting means and standard deviations. Don't worry, you certainly do not need to learn all these figures for the exam!

- Can you find a set of scores where the difference between the means pre-test and post-test is higher for the YCDI group than the non-YCDI group (control group)?
- What does this tell us?
- Can you find a set of scores that suggest that YCDI did not improve the children's skills?

Practice writing a paragraph comparing the results for the different groups in this study. Make sure your paragraph refers explicitly to the data.

TABLE 4.6: MEAN LEVELS OF SOCIAL-EMOTIONAL WELLBEING, SOCIAL-EMOTIONAL COMPETENCE, SOCIAL SKILLS AND READING LEVELS BY GRADE AND GROUP

Measure	Group	Grade							
		Prep (n=42)				Grade One (n=57)			
		Pre-test		Post-test		Pre-test		Post-test	
Positive social-emotional wellbeing	YCDI	90.57	11.17	96.38	8.49	90.07	9.65	95.02	8.06
	Non-YCDI	83.33	8.03	85.19	9.98	89.39	7.23	85.42	7.93
Total problem behaviours	YCDI	2.02	1.21	2.37	0.99	2.17	0.72	1.44	0.79
	Non-YCDI	2.66	1.21	2.45	0.74	2.97	0.87	3.15	0.67
Total social-emotional competence	YCDI	102.57	14.85	110.87	10.70	105.31	15.05	116.85	12.56
	Non-YCDI	99.97	7.80	101.80	10.81	98.37	90.6	97.37	11.72
Total social skills	YCDI	42.94	10.31	45.66	9.60	40.59	9.12	46.28	8.62
	Non-YCDI	38.46	8.51	38.33	5.49	42.50	6.45	34.98	5.83
Reading level	YCDI	5.10	7.10	17.96	7.40	7.86	7.98	24.48	4.86
	Non-YCDI	2.05	2.04	18.24	4.46	5.48	6.29	22.98	5.64

## Conclusions

The YCDI programme can significantly improve social emotional competence, wellbeing and social skills in five- to six-year-olds, even when delivered by classroom teachers with minimal

training. The programme may be slightly more effective for reducing problem behaviour and improving social skills in Grade One classes than Prep classes. The programme may be particularly helpful for supporting Grade One children with lower academic achievement.

### Evaluation

This study collected data using two questionnaires in which teachers scored children on many different aspects of social and emotional development including resilience and behavioural issues, such as internalising versus externalising. This was a strength, as the quantitative data collected from the Likert scales allowed the researchers to calculate whether the differences between the YCDI and the control group were statistically significant. This is important as when a teacher decides to invest in a new set of resources such as YCDI puppets and posters, they need to be confident that they will have a positive impact on the children's development.

However, the researchers observed the YCDI lessons to check that the teachers were following the plans correctly and they found that although the teachers were well prepared, enthusiastic and checked the children's understanding, they did not follow the scripted lesson plans exactly. The Prep class teacher significantly modified some of the activities and the Grade One teacher introduced new activities that she had designed herself. This is a limitation of the study as it reduces the fidelity of the YCDI programme. These modifications may have been responsible for the lack of significant improvement observed in the Prep class compared with the Grade One class. Furthermore, the progress made by the Grade One children may have differed if the programme was delivered more exactly. If the study was replicated, the teachers might choose different activities and observe different outcomes with their classes.

### WIDER ISSUES AND DEBATES

#### Practical issues in the design and implementation of research

Researchers often have to find a compromise when carrying out their studies. In this study, the researchers wanted to trial the interventions with as many children as possible. To do so, they had to find schools and teachers who were willing to participate. Had they not allowed the teachers some autonomy in the content and structure of their YCDI lessons, they may not have consented to be part of the study. Ideally, the researchers may want the programme to be conducted with a high degree of fidelity, but ultimately they need participants and part of this is allowing for the programme to be delivered more flexibly.

The questionnaires used to measure social and emotional competence, wellbeing, problem behaviours and academic competence were completed by the teachers. This is a limitation because the teachers knew whether the children were in the YCDI group or the control group. This reduces the validity of data as the teachers knew the researchers expected to see greater increases in social skills and decreases in problem behaviours, and may have interpreted the children's behaviour differently depending on which group they were in. This means that some of the improvement in the YCDI group may be an expectancy effect and unrelated to the content of the activities, stories, songs and posters. In contrast, you could argue that having the teachers complete the questionnaires was a strength; they know the children well and spend a lot of time observing them in different situations, unlike the researchers.

### KEY TERM

**acculturation stress:** psychological difficulties experienced by people who have been enculturated into one culture and then also come into contact with another culture

The sample in this study included children from one school in Melbourne. The majority spoke English as a second language and were from low socioeconomic backgrounds. This means that findings should be generalised with caution. These children in the study may not be representative of children in other schools. For example, they may have had more problems due to **acculturation stress** and language difficulties. The efficacy of the YCDI programme may differ for children from higher socioeconomic backgrounds, or schools where the majority speak English as their first language.

Finally, the researchers only collected data at two time points: before and immediately after the intervention. This is a limitation because it is unclear whether the improvements in social competence and wellbeing might reduce over time. Also, the decreases in problem behaviours or improvements in reading level for Prep class children may take longer to develop, and may have been missed. This means that the overall effectiveness of the YCDI programme may be under- or overestimated.

#### EXAM TIP

In your extended writing, it is important to provide competing arguments, i.e. arguing that a feature of a study is both a strength and a limitation. Notice how the paragraph about the questionnaires shows how the validity can be reduced by collecting the data from the teachers (because they knew which groups the children were in) but is also increased because they know the children well.

The competing argument is introduced with the phrase 'In contrast...' You could also say, 'That said...' or, 'Alternatively, ...'

Try to think of a competing argument every time you read an evaluation point.

#### Practical applications

The results also indicated that although the Prep and Grade One students improved in their teacher reported levels of social skills, the Grade One students showed a greater improvement than the Prep students. However, there were no differences between males or females, or between the students who spoke different first languages, on the impact of YCDI on social-emotional competence. This indicates that the programme was equally effective for male and female, and English and non-English speaking students.

#### Ethical issues

The use of a wait list control group meant that all children were able to benefit from the programme, even those in the control group. Also the parents had the right to withdraw their children.

### DING ET AL. (2014) THE RELATION OF EARLY INFANT ATTACHMENT TO ATTACHMENT AND COGNITIVE DEVELOPMENT OUTCOMES IN EARLY CHILDHOOD



Ding et al. measured stability of attachment over time from infancy and early childhood. Which attachment style do you think this baby might be showing? What makes you think this?

## Background

Ding et al. (2014) comment that there have been few attachment studies from China, despite replications in many countries worldwide. They introduce their study by discussing the formation of the internal working model. This acts as a template, which guides future relationships, including friendships with peers and romantic partnerships. Some researchers believe attachments are consistent and stable over time. They believe that measuring attachment style in infancy is, therefore, useful in predicting future childhood behaviours such as aggression (insecure-avoidant) and social withdrawal (insecure-resistant). Others believe that attachment may be inconsistent and unstable, changing in line with experiences throughout life. Thus, attachment style is not a good predictor of future behaviour. The researchers decided to explore the possible links between attachment in infancy and future cognitive, social and emotional development in a longitudinal study of Chinese mothers and babies.

## Aim

To investigate the relationship between security of mother–infant attachment to attachment, cognitive and behavioural development in young children. Specifically the researchers expected that:

- attachment security would be stable (consistent) from infancy to early childhood
- insecurely attached infants would show weaker cognitive development in early childhood than securely attached children
  - Type B (insecure-resistant) would show greater cognitive impairment than Type A (insecure-avoidant)
- insecurely attached infants would show more behavioural problems in early childhood than securely attached infants
  - Type B (insecure-resistant) would show more social withdrawal and/or aggression
  - Type A (insecure-avoidant) would show more depression and/or vandalism.

## Method or design

Longitudinal study with independent measures design.

### LINK

Before reading on, refresh your knowledge of the Strange Situation Procedure (page 16) and Type D (Disorganised) attachment (Main & Solomon, 1986); see page 59.

## Sample

160 mothers (average age 29) and their 14–18-month-old infants (82 boys and 78 girls) were recruited through the Child Healthcare Network in Shanghai, China. All infants were healthy firstborns from middle-income families. Mothers were married, living with the babies' fathers and had no mental disorders. By the second assessment, 26 per cent of the mothers had dropped out. In the second phase of the study, 63 boys and 55 girls were reassessed when they were three years old.

## Procedure

Infant attachment type was measured using the Strange Situation Procedure (see page 16) at 12–18 months. Sessions were audio and video recorded. Researchers classified the babies as either Type A, B, C or D based on the recordings.

## Measuring attachment

Child attachment type was assessed when the children were three years old using a modified version of The Waters Child Attachment Q-set (AQS), (Wu et al., 1994). The mothers were given 90 cards with descriptions of attachment behaviours. They had to sort them into nine piles reflecting how much the descriptions matched their child's behaviour. A scoring system was used to determine overall attachment score. Above average scores were classified as secure and below average as insecure.

## Measuring children's cognitive development at three years old

The Bayley scale of infant development – second edition (BSID-II) was used to measure cognitive development and motor skills. Two raters carried out the test. Both were blind to the child's attachment type.

### Measuring behavioural problems

Social withdrawal, depression, sleep problems, physical symptoms, aggressive behaviour and vandalism were measured using The Child Behaviour Checklist (CBCL) (Liu et al., 2003). The mothers rated 99 behaviours on a scale from zero to two (zero = never, one = occasionally, two = often).

### Results

TABLE 4.7: PERCENTAGE CLASSIFIED AS SECURE VERSUS INSECURE ATTACHMENT

Age	Secure (Type B)	Insecure- avoidant (Type A)	Insecure- resistant (Type C)	Insecure disorganised (Type D)
12–18 months	66% (n = 78)	8.5% (n = 10)	23% (n = 27)	2.5% (n = 3)
3 years	64% (n = 76)		36% (n = 42)	

The majority of infants were classified as securely attached in both infancy (66 per cent) and early childhood (64 per cent). In infancy, the most common insecure attachment style was insecure-resistant (23 per cent) (see Table 4.7).

These attachment styles were relatively consistent. Of those who were classified as secure at 12–18 months, 90 per cent remained secure at 3 years (n = 70/78). Of those who were classified as insecure at 12–18 months, 85 per cent (n = 34/40) were insecure at three years.

TABLE 4.8: MEAN AVERAGE MDI AND PDI SCORES FOR SECURE VERSUS INSECURE ATTACHMENT AT THREE YEARS

BSID-II Scales	Secure	Insecure- avoidant	Insecure- resistant
Mental Development Index (MDI)	102.9	99.7	95.1
Psychomotor Development Index (PDI)	98.8	96.6	94.7

Children classified as secure at age three scored significantly higher on the MDI than those classified as insecure ( $p < 0.05$ ) (see Table 4.8). There was no significant difference in the PDI scores for securely versus insecurely attached infants ( $p > 0.05$ ).

TABLE 4.9: MEAN AVERAGE BEHAVIOURAL PROBLEMS SCORES FOR SECURE VERSUS INSECURE ATTACHMENT AT THREE YEARS

Behavioural problems	Attachment type (Type D not listed as sample size too small)		
	Secure (Type B)	Insecure- avoidant (Type A)	Insecure- resistant (Type C)
Social withdrawal	6.9	6.8	9.8
Depression	4.8	5.1	5.3
Sleep problems	3.8	2.9	5.2
Physical symptoms	4.3	3.7	5.0
Aggressive behaviour	20.5	18.4	27.2
Vandalism	5.6	6.3	6.9
Total problems in early childhood	45.9	43.2	59.3

Children classified as securely attached at three years old had significantly lower scores for social withdrawal ( $p = 0.02$ ) and aggression ( $p = 0.04$ ) and fewer behavioural problems overall ( $p = 0.02$ ) than children classified as insecurely attached (see Table 4.9). Children classified as insecure-resistant as infants had significantly more problems with social withdrawal, sleep and aggression than with other attachment types. Children classified as insecure as infants (especially Type D) were more likely to suffer with multiple behavioural problems than securely attached children.

### Conclusions

Attachment type is relatively stable over time and has high predictive validity regarding future cognitive and socioemotional development. Secure attachment is associated with better cognitive development and fewer behavioural problems in early childhood than insecure attachment. Security of attachment may mean the child has a safe base from which to explore the world, allowing the child to make greater gains in both cognitive and socioemotional development. Overall, children classified as insecure resistant appear to experience greater impairment to future development than those classified as insecure-avoidant.

### Evaluation

The videotaped data from the Strange Situation was coded by a well-trained researcher. An independent researcher recoded 30 of the videos and inter-rater reliability was 95 per cent for all four attachment types. At the follow up, the researcher checked test-retest reliability by randomly selecting 10 mothers to redo the AQS. The correlation between the two sets of scores was 0.96 ( $p < 0.05$ ) demonstrating very high reliability. Interrater reliability was also very high for the MDI and the PDI. These reliability checks increase confidence in the findings regarding the distribution and stability of attachment types and how they relate to future development. This is important as there are very few studies like this with Chinese participants.

At the follow-up, none of the 118 mothers had experienced divorce, death or other family crises and only three had given birth to another child. This may not be representative of families in other cultures and may explain the high number of children receiving the same attachment type on the AQS as in the Strange Situation. When families face negative life events or even stress created by positive changes such as a new baby, security of attachment can change from secure to insecure. This means that findings about the stability of attachment and how this is related to cognitive and social development should only be generalised to similar middle-income families in Shanghai.

Between the two data collections, the sample size reduced from 160 to 118, a 26 per cent **attrition** rate. This meant that the number of children classified with each type of attachment type was reduced, so the final sample for insecure attachment was only 42, which reduces the **statistical power** of the tests. If the study was repeated with more participants, the researchers could look in greater detail at differences in cognitive development and behavioural problems between insecure attachment types (A, C and D). However, it should be noted that the distribution of attachment styles in the families that dropped out was similar to those who were followed up (secure = 74 per cent, Type A: 5 per cent, Type C = 19 per cent, Type D = 2 per cent), suggesting that the relatively high attrition rate did not lead to sampling bias, for example, over representation of any of the four attachment styles in the final sample.

### Practical applications

This study shows that attachment types in infancy can have a lasting impact on a child's cognitive and social development. This suggests that supporting parents when babies are very young is critical, particularly for families who may be at risk of insecure attachment. Likewise, it may be helpful to provide additional support when children begin preschool for any infants who are insecurely attached.

### KEY TERMS

**attrition:** the tendency for participants to drop out of longitudinal research which can reduce the generalisability of the findings if the final sample is no longer representative of the target population

**statistical power:** the extent to which an inferential statistical test is likely to produce a significant outcome (meaning the null hypothesis can be rejected) if there is a relationship between the tested variables in the target population

### THINKING LIKE A PSYCHOLOGIST

Can you think of any ways that this study could be improved? For example, can you think of any individual differences (between the mothers and/or the children) which might affect attachment, cognitive and socioemotional development that the researchers did not measure?

- Why would it be helpful to measure this variable?
- How would you measure it?

### Ethical issues

The ethics committee at The Children's Hospital of Fudan University approved the study. This suggests all ethical guidelines were met so distress to the mother and infants would be minimised while maximising the benefits to society. Mothers provided informed consent for all assessments. This protects them from psychological harm as they fully understand their role in assessments such as the SSP and the AQS, for example, they will be asked to reflect in detail about their relationship with their child, which could be distressing if any of the mothers were experiencing difficulties.

### CHECKPOINT

1. In the study by Van IJzendoorn and Kroonenberg (1988):
  - a) What research method was used?
  - b) What type of data was used?
2. In the study by Cassibba et al. (2013):
  - a) What were the four adult attachment types?
  - b) How did the researchers explain the low percentage of adults classified as having the unresolved attachment type?
3. In the study by Ashdown and Bernard (2012):
  - a) What were the five socioemotional competencies targeted in the You Can Do It! (YCDI) Education programme?
  - b) What variables were measured using self-report questionnaires (the ACER and the SSRS)?
4. In the study by Ding et al. (2014):
  - a) What were two measures of attachment?
  - b) Sleep problems and aggression were common in children with which attachment type?

### EXAM PRACTICE

1. Describe two findings from Van IJzendoorn and Kroonenberg. One finding must support nature and one must support nurture. (2 marks)
2. Explain one weakness of IJzendoorn and Kroonenberg (1988). (2 marks)
3. Explain one practical application of the findings from Cassibba et al. (2013). (2 marks)
4. With reference to either Ashdown and Bernard (2012) or Ding et al. (2014), assess whether your chosen contemporary study can be considered scientific. (8 marks)
5. Assess whether research in developmental psychology can be considered ethical. You must refer to at least one piece of contemporary research in your answer. (8 marks)

# CHAPTER 5 METHODS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe all methods from Units 1 and 2
- describe how clinical interviewing is used to understand the world of the child
- describe ethnographic field work, including:
  - a study, Punch in Bolivia (2002), related to longitudinal/cross-sectional research in developmental psychology
- describe cross-cultural research, including:
  - the use of the cross-cultural research method in the Strange Situation Procedure how it relates to issues of nature and nurture
  - the use of meta-analysis using cross-cultural research to draw conclusions about the universality of attachment types
- describe the UNCRC (1989), including:
  - participation versus protection rights and research
  - getting data from children
  - ethical issues when children are the participants
- decision making and interpretation of data
  - including List A from Topic A as appropriate
  - and List B from Topic B as appropriate.

## GETTING STARTED

Imagine that you are going to a local school to interview some five-year-olds about friendship and play.

- What will you wear and why?
- Will you record the interviews?
- If so, will you do this by hand in a notebook, on your phone with a voice recorder, or will you video the interviews with a camera on a tripod?

Make a list of all the ethical and practical issues that might arise when collecting this data.

If you were going to analyse the data you have collected, how would you go about this and how would you check that your analysis was credible?

Adults may see the world differently to children due to their differing life experiences and position in society. This can make research in this area of psychology difficult. Which methods do you think are most effective in developmental psychology? ►





▲ Figure 1.5.1 Bowlby understood the difficulties of interviewing children and that when a child was interviewed they would often be on their best behaviour which was not necessarily representative of their true nature

#### EXAM TIP

When revising for Unit 3, you should review all of the methods sections in Topics A to D from Student Book 1. Think about how these methods might be useful when conducting developmental research with babies and children, their family members and caregivers. See Topic I for cross references to more information about each research method.

#### KEY TERMS

**emic:** an approach which looks at a culture from inside it, rather than applying external judgments

**ethnographic fieldwork:** learning about the beliefs, values, attitudes and way of life of individuals and communities through observation and participation in the culture, often for an extended period; this type of study typically takes an emic approach

## THE USE OF METHODS IN PSYCHOLOGY WHEN CARRYING OUT RESEARCH IN DEVELOPMENTAL PSYCHOLOGY

### CLINICAL INTERVIEWING TO UNDERSTAND THE WORLD OF THE CHILD

Clinical interviews are commonly used in developmental psychology to gather information to help diagnose and treat children, but they may also be used as a way of exploring children's thoughts and feelings. They are typically unstructured and conversational. The interviewer may have a set of predetermined themes that they wish to cover, but the interviewer's questions are always influenced by the interviewee's previous response. This allows the interviewer to adapt their communication to the interviewee's needs and ask for clarification and/or expansion on points of particular interest. Bowlby used clinical interviewing when diagnosing the 44 Thieves (see page 11).

Developmental psychologists sometimes combine interviewing techniques. Piaget described his own style of interviewing as the clinical method. Often he would ask standardised closed questions that were exactly the same for every child. Next, he would ask the child to explain their reasoning. Here the questions were open. He repeatedly probed the children with further questions to help him to understand their point of view. This technique has also been referred to as a semi-clinical interview (Elkind, 1964).

Interviewing young children requires special skills to keep the children engaged. When assessing their understanding, interviewers are more likely to gain valid information about the extent of the child's abilities if they spend some time getting to know the child (for example talking about their interests) before starting the formal questioning. Young children have limited attention compared with other children, and therefore, it is also important to get the required information relatively quickly. They also have more limited language skills than older children, meaning interview questions may need to be adapted to make them easier to understand.

### ETHNOGRAPHIC FIELD WORK

**Ethnographic fieldwork** involves studying individuals and communities within their natural settings. Data gathering techniques include naturalistic participant observation and interviewing. It is often described as an immersive methodology as researchers typically live within the communities they are studying for several months or even years. For example, Samantha Punch (see below) stayed with a family in rural Bolivia for five years whilst carrying out her research. This means ethnographic research is generally longitudinal. This allows them to gain rich and detailed insight into the individuals' everyday lives and to understand the participants' beliefs, values and attitudes, and social and cultural norms. Data is typically in the form of field notes, meaning researchers write up detailed diaries/notes about what they see and hear.

Collecting data in this way often helps researchers not only to learn about who does what, when and how much, but also why people behave in the ways that they do. This is because this methodology often allows greater insight into the contexts in which behaviours occur. This is an example of taking an **emic** approach in psychology. When studying cultures other than one's own, researchers work together with indigenous team members who are able to speak the language of the people being studied, ideally as their first language. This can help to reduce barriers which may reduce the credibility of the data.

### Evaluation

A problem with ethnographic fieldwork with children is that participant observation is less effective than it is with adults. This is because the researchers can never truly become a

member of the group due to the age difference. This also means the adult has greater power/authority than other group members, that is, the researcher is not the child's equal or peer. This may mean that it is difficult for them to see things from the child's perspective. The same could be said for participant observations of elderly people.

Another issue when researching children, especially in cultures other than one's own, is the position of the child in society. Some cultures are very child-centric and children have more rights than they do in other parts of the world (see page 79). In regions where the power distribution between adults and children is large, children may be extremely unfamiliar with being asked about their attitudes and opinions regarding certain aspects of their lives. They may therefore find it very difficult to answer questions when asked directly by adult researchers.

### PUNCH IN BOLIVIA (2002)

In 2002, Samantha Punch published two papers about her ethnographic research in rural Bolivia (Punch, 2002a; Punch, 2002b). The information below comprises information drawn from both papers.

#### EXAM TIP

Information from either Punch 2002a or 2002b or a combination of both can be used when answering exam questions.

#### KEY TERMS

**majority world:** regions or countries occupied by the majority of the world's population, e.g. many countries in Africa, Asia, and South and Central America

**minority world:** regions or countries occupied by a minority of the world's population, e.g. North America, Europe and parts of Oceania

In the **majority world** children often contribute to household finances by working from a young age. For example, in Bolivia, transitions into adulthood differ from most young people in the **minority world**. This is because different generations within rural Bolivian families are often financially interdependent. Children attend five years of compulsory primary education. In the small community where this study took place, there is no secondary school. Children who wish to continue their education travel to other areas or move away. However, this is rare as it is too expensive.

School-leavers may work for their family or others. They face decisions about staying at home or moving away. Sometimes children start work and then go back to school or vice versa. Sometimes children carry out unpaid work within their own household but use the family's land to grow produce to sell. This means there are not always clear boundaries between home and work and unpaid versus paid work.

#### Aim

To investigate the decision-making process of young people in rural Bolivia on leaving primary education, for example, to continue their schooling or transition into work. Specifically, the study explores issues relating to living/working in isolated, low economic status areas including the effects of parental/family attitudes, gender, birth order, social networks and role models.

#### Method or design

Four-year longitudinal study including participant observation and interviews.

#### Sample

Family members from 18 households from Churquiales, a very small, isolated and financially impoverished rural community in Southern Bolivia. Only 7 per cent of 13–19 years olds were still at school (all were from the wealthiest families). 42 per cent worked in their family homes or within their own community. 52 per cent worked in neighbouring towns or in Argentina.

#### Procedure

Qualitative data was collected using naturalistic observation and interviews with all members of each family. Classroom-based activities were used to prompt discussion with the children, for example, drawings, taking photographs and completing worksheets on topics such as family, work and future plans. Spider diagrams were used to explore where the children go and what they do. Punch also collected quantitative data by getting the children to mark how many times

they went to certain places or did certain tasks and to add a star to show any activity/places which were very familiar. She also asked the children to keep daily diaries so she could gain insight into their everyday lives. Punch also visited Argentina for follow-up interviews with some of the children who migrated for work.

### Results

Young people's reasons to migrate and seek opportunities to work abroad included economic constraints, irregular work and lack of land ownership. Although some recognised the potential benefits of education, others did not value their experiences in primary school, meaning they did not want to move to secondary school. Parents did not always encourage children to value their education. Boys were more likely to migrate to Argentina, whereas girls were more likely to work in their own household or community. When migrants returned to their community, they sometimes acted as role models to other children and shaped their aspirations. Older siblings sometimes contributed to the continuing education of younger siblings. Relationships between young people and their families were typically cooperative despite the occasional tension.

Qualitative data collected by Punch (2002a) from a young Bolivian woman who migrated to Argentina:

'At first I didn't like it much because I missed my family. I cried a lot and I felt very alone, but I stuck it out and stayed. I went because I had always wanted to go to Argentina. Before that I was in Tarija, studying and working as a nanny, but there was a lot of work and they paid very little. From there I decided to go to Argentina. I told my parents and my dad let me go.' (Monica, age 23)

### Conclusion

Young people's decisions about work versus education are determined by complex interactions between family and individual aspirations, and socioeconomic constraints. Although they may achieve economic independence sooner than those in the minority world, long-term family interdependence is maintained throughout life. The term 'negotiated interdependence' (Punch 2002a, page 1) describes how the relationship between children and adults influence decision making at this important life stage.



Children only attend compulsory education for five years in Bolivia before deciding whether to continue their schooling, work in their communities or migrate

### Evaluation

A strength of Punch's work in Bolivia is that it was longitudinal, and she used triangulation of research methods to collect mainly qualitative data regarding the parents and the children's attitudes towards education and work. This meant she was able to gain a massive amount of rich and detailed data allowing her to gain great insight into the factors affecting the family's lives and decision making. Using qualitative data meant that the participants described their experiences in their own words such as Monica's explanation of her time in Argentina (see quote above). This adds credibility to Punch's conclusions as participants were not constrained by response categories that might not fit with their life experiences.

Another strength of Punch's work is that she asked the children to draw pictures to help them to express their attitudes and feelings. Using visual methods helped to overcome language barriers as the young participants may have found it difficult to explain themselves. However, Punch notes that rural Bolivian children are unlikely to have been exposed to cartoons and comics and are not used to drawing as a way of expressing themselves. Many drew pictures of flowers, houses and animals that they had been taught to draw at school and copied images from textbooks and each other. This meant that drawing was not the most effective way of understanding the children's attitudes to family, work and school.

### Practical applications

Better understanding of the motivations, needs and issues affecting migrant workers, such as Bolivian children in Argentina, may be helpful to charities and non-governmental organisations (NGOs) providing support services to these individuals and communities, helping to improve their quality of life and protect them from exploitation and abuse.

### Ethical issues

Punch's use of a camera to take photographs of things that were important to the children was a strength. This is because some of the children might have felt self-conscious about their drawing skills, especially as they were not used to using felt tip pens, as they are typically too expensive. This could be seen as a way of protecting the children from harm. However, some of their parents expressed disapproval as they could not afford cameras and the children were disappointed that they would not be able to take photographs in the future despite enjoying the experience. This demonstrates the importance of seeking consent for all aspects of the study in order to protect children and parents from psychological harm.

## LONGITUDINAL AND CROSS-SECTIONAL RESEARCH IN DEVELOPMENTAL PSYCHOLOGY

### Longitudinal studies

Longitudinal studies involve collecting data repeatedly for the same group of people over an extended period of time. This is done to check whether the behaviour is consistent or whether changes occur over time. The time period could be anything from a few weeks or months, to years or even decades.

Longitudinal studies are common in developmental psychology since researchers are interested in how cognitive, language and social-emotional skills change over time. For this reason, you will find many studies with a longitudinal element in this unit, for example:

- Ding et al. measured security of attachment in infants aged 14–18 months and then again at three years;
- the Romanian orphans studied by Rutter et al. (2007) have been reassessed many times since they were adopted in the 1990s;
- Malone et al. (2016) assessed a group of men in their early 80s, who had been studied periodically since their late adolescence, making this the longest longitudinal study in this unit.

As you look at the examples within this chapter, you may notice that sometimes longitudinal study is the main research method, whereas other times it is just one aspect of a different method. For example, some experiments are longitudinal. This is true of many of the randomised control trials in this unit. Data is collected before and after an intervention and participants may also be recontacted again for a follow-up assessment. When intervention studies do not include follow-up assessments, this is a weakness of the study as the long-term efficacy of the intervention is unknown. Case study is another example of a research method that typically is longitudinal. For example, Jarmila Koluchova studied the twins in her case study for 22 years (Koluchova, 1990).

### Evaluation

Longitudinal studies present a number of methodological problems for researchers. Firstly, participants often drop-out for personal reasons, such as moving house or simply due to losing interest in the study. Psychologists refer to this as **attrition**. This means that the sample of participants that remain at the end of the study may no longer be representative of the target population, limiting the generalisability. Another issue is subjectivity. As researchers visit participants multiple times, they may build a relationship with them which reduces the objectivity of their assessments. Finally, longitudinal studies are expensive and time consuming, meaning replications are uncommon.

### Cross-sectional studies

Another way of drawing conclusions about the effects of age and experience on development is to conduct a cross-sectional study. This allows developmental psychologists to collect data at a single point in time. This overcomes the need to wait months or years, making for a much more practical and cost-effective way of collecting data about developmental trends than studying people longitudinally.

Cross-sectional studies allow developmental psychologists to compare groups within the target population, such as children of different age groups. As with longitudinal studies, you will also find many cross-sectional studies throughout this unit. For example, Piaget and Inhelder compared children aged between four and eight in studies on the Three Mountains Experiment (see page 27). Berko compared four- to seven-year-olds in her study of grammatical errors (see page 35) and Martorano (1977) compared the performance of young people aged 11 to 17 on Piaget's Pendulum task.

### KEY TERM

**cohort effects:** aspects of the behaviour of a group of participants which differ from other groups due to life experiences specific to that particular group, e.g. children who were born during the COVID-19 lockdown, which can reduce internal validity in a cross-sectional study

### Evaluation

As there is no manipulation of an independent variable, the internal validity of cross-sectional studies is reduced. When researchers are studying the effects of age, it is impossible to randomly allocate the participants and this means participants' variables may be affecting the measured variable(s). Cross-sectional studies suffer from a specific problem known as **cohort effects**. This refers to the fact that people born in different years have different life experiences depending on a variety of social, economic and political factors. It may not be useful to compare groups of children on their language and cognitive development if all of the children in the older group had their learning disrupted by the COVID-19 lockdowns but all of the children in the younger group did not.

Cohort effects can also be a problem with longitudinal studies. Although the same participants are being compared over time, meaning participant variables are reduced, the findings may lack generalisability. This is because they only apply to people who lived through the same set of experiences as those in the study. This may also mean that the findings lack temporal validity and may not apply to people from different eras.

This said, cross-sectional studies are less demanding for participants than longitudinal designs. This reduces attrition and may be seen as more ethical than longitudinal studies, in which people may feel obliged to continue even when they would rather withdraw.

## CROSS-CULTURAL RESEARCH, STRANGE SITUATION, NATURE VERSUS NURTURE

### LINK

Refresh your memory of cross-cultural research into attachment page 78.

Cross-cultural research allows psychologists to see if a behaviour is universal across countries or cultures. For example, in developmental psychology, researchers can examine whether attachment behaviour is universal (the same) regardless of the country. This is typically achieved by collecting quantitative data using some form of standardised questionnaire and/or structured observation in two or more cultures and comparing to see whether there are statistically significant differences. Cross-cultural research is often linked to the etic approach in comparison with ethnographic field work which takes the emic approach.

If attachment behaviour is similar all over the world, despite differences in child-rearing style, this suggests that nature may be more important than nurture. If however, attachment behaviours differ from one culture to another, this suggests that nurture may be more important than nature. It is also important to remember that, if cross-cultural research is not carried out, the evidence would be ethnocentric meaning it is relevant only to one country and therefore culturally biased. Problems with **etic** research also mean that some people argue that findings from cross-cultural research lack validity unless they are combined with more ethnographic methods.

### KEY TERM

**etic:** an approach which emphasises cultural universals (behaviours that are the same worldwide); it assumes that these behaviours can be measured using the same techniques, often employing measures designed in one culture to assess behaviour in a different culture

## META-ANALYSIS, CROSS-CULTURAL RESEARCH AND THE UNIVERSALITY OF ATTACHMENT TYPES

Cross-cultural conclusions about attachment are often based on meta-analysis. This is a research method in which researchers combine data from lots of individual studies. This means that they are using secondary data as it has already been collected by other researchers. The studies are generally selected in a systematic way, meaning that they are all investigating the same topic in the same way. The data from these studies is then re-analysed as one large data set. Meta-analyses often result in a statistic called an effect size, which summarises the overall impact of the variable of interest across all of the studies included in the analysis.

Many meta-analyses are discussed in this unit. With reference to culture and attachment, you have studied a classic study, Van IJzendoorn and Kroonenberg (1988) (see page 56), who investigated cross-cultural differences in attachment security both within and between cultures, and a contemporary study by Cassibba et al. (2013), who explored cross-cultural differences between American and Italian infants and adults.

### Evaluation

A strength is that meta-analyses often include large numbers of participants from diverse backgrounds meaning that if there are significant effects to be found, this is more likely. This is because the statistical power of the tests increases with the sample size. This type of analysis can be very helpful when studies appear to contradict one another and/or when differences are very small, as it allows overall trends to be identified more easily.

A weakness of meta-analyses is that there are often important differences between the studies that are included. For example, although studies may look at the impact of the same variables (for example, caregiver sensitivity on attachment), these variables may be measured in different ways. In the meta-analysis by Marianne de Wolff and Marinus van IJzendoorn (1997), they found significant differences in effect size dependent upon the way that caregiver sensitivity was measured. Methodological differences between the studies may therefore be responsible for differences between the results of the studies. This reduces the meaningfulness of any comparisons and reduces the validity of the findings.

Furthermore, meta-analyses typically only include the results of studies published in peer-reviewed journals. This research has a tendency to show positive, rather than negative/null findings. Research studies with null findings are often not published because they do not

**LINK**

See page 344 for more on peer review.

demonstrate interesting findings, so they are filed away. This is known as the file-drawer effect. However, some researchers deliberately include results from unpublished doctoral dissertations and conference papers to avoid the file-drawer effect. This means effect sizes are likely to be a better reflection of the actual data, rather than simply the published data. However, including data from studies that have not been peer-reviewed means data may be biased in other ways.

**LINK**

For more on ethics see Student Book 1, page 55–56.

### ETHICS AND THE UNCRC (1989)

The BPS Code of Ethics and Conduct (2021) contains ethical principles and guidelines which must be upheld by British psychologists. These principles include respect, responsibility, integrity and competence. They are regularly reviewed and are designed to protect all participants, including children.

### PARTICIPATION VERSUS PROTECTION RIGHTS AND RESEARCH

The BPS Code of Human Research Ethics (2021) categorises participants under the age of 16 as vulnerable. This means psychologists must be especially careful and ensure a comprehensive risk assessment has been conducted whenever child participants are involved in research. Samantha Punch (2002b) notes that in many world cultures children occupy a marginalised position in society, meaning they lack social power in social contexts involving adults. This means they may not understand that their participation in research is voluntary and that they have the right to withdraw.

These basic rights are afforded to all participants but must be very clearly communicated when the participants are children. This has been a critical focus for developmental psychologists since The United Nations Convention on the Rights of the Child (UNCRC) was adopted in 1989. This legally-binding international agreement details the civil, political, economic, social and cultural rights of all children, regardless of race, religion or abilities in the 193 member states. The purpose of the agreement is to promote the health, wellbeing and rights of children to be treated fairly and not exploited.

### GETTING DATA FROM CHILDREN

This document had a significant impact on psychology as it details children's right to fully participate in any decisions which affect their lives. This means that active steps need to be taken to ensure that children are treated as equal partners in the research process, which must be adapted to ensure that their voices are heard and taken seriously.

Children under 16 may not be able to fully assess the potential consequences of participation in a research study due to their limited cognitive and language development. This means that they may not be able to give truly informed consent depending on their age. For this reason, parents must provide consent on their behalf. However, to comply with the UNCRC, children must always be fully involved in the consent process. To this end, information must be supplied in a developmentally age-appropriate way, for example simplified language and supported with pictures or video.

**KEY TERM**

**assent:** the child's willingness to participate or continue participating in a psychological research study

Once the data collection is underway, researchers must monitor children carefully for non-verbal signs that the child no longer wishes to participate, for example looking away, not making eye contact. The BPS (2021) class such behaviours as lack of **assent**, thus indicating that the researcher should bring the session to an end. Children are less likely to exercise their right to withdraw as they are often used to complying with adults against their will at home and school. This means they may be vulnerable to exploitation as researchers may be keen to finish the session/test and put the research ahead of the participants' wishes.

## ETHICAL ISSUES WHEN CHILDREN ARE THE PARTICIPANTS

Under the UNCRC, children also have the right to privacy which means researchers may need to explain to parents that the children's data is confidential. This said, children also have the right to be safe, meaning any information they disclose that prompts concern in the leaders over their immediate safety should be referred to an appropriate expert.

Developmental psychologists may also involve children in the planning of studies in which children will be the participants. For example, they may be asked to help to design and pilot (test-run) child-friendly materials.

Although the protection of children's rights is paramount, researchers must also be mindful of the importance of balancing these rights with the need to carry out meaningful research. For example, there may be potential cost to not conducting certain studies, for example the failure to develop evidence-based practice in education and children's services. Ethics committees and institutional review boards (IRBs) will also use the UNCRC to help ensure that all studies are compliant while also delivering the intended research aims.

### SKILLS

EMPATHY/PERSPECTIVE TAKING,  
CRITICAL THINKING

### ACTIVITY 1

As you revise the studies in this unit, try to put yourself in the position of the child participants (and/or their parents).

- Can you think of any possible costs or risks that they might face by participating?
- What could the child have been doing with the time they invested in the study which might have been more beneficial to their wellbeing?
- Could the study have any unexpected negative effects on family life with their parents/caregivers?
- How could the possibility of these potential negative outcomes be reduced?

### EXAM TIP

Remember something is only an issue if it can be discussed, meaning people have differing opinions or points of view. When writing about ethical issues, try to consider the problems associated with upholding ethical guidelines and complying with the UNCRC.

## EVALUATION OF RESEARCH IN DEVELOPMENTAL PSYCHOLOGY

As you reflect on the studies in this unit, try to use the following terms in your evaluations.

### LINKS

See Student Book 1, pages 45–54 for more on all elements of List A (descriptive statistics).

### RELIABILITY

The findings of a study can be said to be reliable if they have been replicated. However replication may not be possible unless the research used a standardised procedure. In an observational study, reliability of the data can be checked by testing the correlation between a sample of scores assigned by the researcher and another independent observer. If a Spearman's Rank test reveals a significant positive correlation, the data can be said to have inter-observer reliability, suggesting that all of the scores assigned by the first researcher were done so consistently. This technique was used in the Strange Situation Procedure study by Ainsworth and Bell (1970) where a coefficient of 0.93 for proximity- and contact-seeking behaviours was found for 14 randomly selected infants. This shows very high inter-observer reliability. Another way researchers can check the reliability is test-retest reliability, in which the same measure test is administered twice, with a short interval (for example, a week) in between to see whether the scores correlate.

### LINKS

See Student Book 1, pages 112–124 for more on all elements of List B (inferential statistics).

Other research methods used in developmental psychology may lack reliability as either the procedures are unstandardised (for example, Bowlby's clinical interviews) or the techniques used to analyse the data are subjective (for example, content or thematic analysis).

### VALIDITY

There may be many threats to internal validity in developmental research, including demand characteristics and researcher effects. However there are also ways that these issues can be reduced. For example O'Connor et al. used a single blind design, meaning the researcher did not know whether the parents they were observing had attended The Incredible Years intervention sessions or not. This meant that their observation would be free from bias/researcher effects.

Cross-sectional studies comparing children of different ages are common in developmental psychology, yet the findings suffer from cohort effects. This is because the two or more groups of children being compared have not grown up under the same circumstances and this can reduce validity, as results may be due to societal differences rather than age. This problem can be overcome through the use of longitudinal studies, although these also have their problems with subjectivity and generalisability (see below). In studies examining the effect of an intervention on development, results may be due to maturation (ageing) and not the intervention. This is why wait-list control groups are important; however, the findings may then suffer from expectancy effects as those in the intervention expect to improve more than the wait list group. This may be less problematic with children compared with adult participants. However, it also underlines the importance of active control groups.

When parents and teachers complete the same questionnaire several times at different points throughout a study, for example before or after an intervention such as the YCDI programme, validity may be reduced due to order effects. This means that the answers given the second time may be influenced by the answers provided the first time. Many tests used in developmental psychology, to measure speech and language development for example, cannot be used more than once within a certain time frame to avoid this very problem.

Social desirability bias can also reduce validity. People may behave in ways which are more likely to conform with social and cultural norms because they know that they are being observed. This can be particularly problematic when parents/caregivers believe that their parenting skills are being judged, meaning their behaviour when interacting with their infants is unnatural.

This links to ecological validity which refers to the extent to which a study's finding can be applied to real-world settings. When settings and tasks are unnatural, the study may lack validity. For example, in Song et al. (2010), babies looked at photographs while listening to voices that had been digitally altered to remove key features of parentese. Both the voice and the looking task were artificial, reducing the ecological validity of the findings.

### GENERALISABILITY

Generalisability refers to the extent to which findings from the sample can be applied to the target population. This depends on how representative the sample is, which is affected by the size of the sample, but more importantly the sampling technique. Stratified samples are most generalisable; however, this technique is uncommon as it is time-consuming to set up and depends on access to demographic data about the entire population. As stratified sampling also involves random sampling of people from within the strata (sector) of the target population, it also means that the researchers must have access to the contact details of everyone in the target population. The least representative methods are volunteer and opportunity sampling, and unfortunately, these techniques are most commonly used across the whole of psychology.

including developmental. As you review the studies in this topic, look carefully at the sampling techniques as well as the sample sizes before judging the extent to which the findings can really be meaningfully applied to other people.

### CREDIBILITY

Credibility refers to the trustworthiness of a study's methodology, that is, how the data was collected and its analysis. It is therefore dependent upon the degree of scientific rigour with which the study was conducted. Studies with high credibility will have strong reliability, internal and external validity. When researchers interpret their findings, meaning they present conclusions or inferences, they must be careful not to overstate what they have found. This means findings should be presented cautiously with recognition of their limitations. For example, one cannot claim that a specific intervention caused children's social and emotional development to improve without awareness of all of the other factors which may have affected them. Presenting findings more cautiously or tentatively therefore increases credibility, that is, it is easier to believe/accept that the intervention had an effect than it caused an effect. In quantitative research, we may seek to find causal relationships, but we do not always state that this is what we have done.

Qualitative research does not seek to find general laws/principles that can be applied to larger groups of people – it seeks to understand the experiences of small groups of people. Findings are more credible when researchers use triangulation of methods, that is, collecting data using observations, interview and/or psychometric testing. Credibility of analysis can be improved through inviting independent researchers to re-analyse the data and see whether the same themes arise. Once a theory has been established based on the data, more data may be collected to see whether it fits with the theory. Another important part of credibility in qualitative data is member checking. This means that the researchers show their theory (analysis) to the participants to see whether they feel that there is a good match with their lived experience. In developmental psychology, member checking may be more difficult as children may not understand the adult researcher's interpretations. This could be seen as reducing credibility in qualitative studies of children's development.

### OBJECTIVITY AND SUBJECTIVITY

Objectivity refers to collecting data without bias. This means that researchers should focus on describing what they see, rather than interpreting what they believe certain behaviour might mean. This is because humans act with different intentions, and therefore, it is not possible to state with certainty why another person has behaved as they have. However, it is very difficult to be objective. Humans are naturally predisposed to interpret the behaviour of other humans. It is this amongst other skills that has made us so successful as a species. Thus, psychologists must employ strategies to increase objectivity in their work.

For example, in quantitative research, researchers often use double blind designs, in which the participants are unaware of the hypothesis being tested, but more importantly the person collecting the data does not know the hypothesis and is simply entrusted with collecting the data for a given variable. This means that the researcher should not hold any specific expectations about how the participants will behave, therefore reducing bias and increasing objectivity.

The opposite of objectivity is subjectivity. This refers to findings and conclusions which reflect the personal biases of the researchers. These can become particularly apparent when researchers are analysing qualitative data using techniques such as thematic analysis. A way of acknowledging the impact of these biases is reflexivity. This means that researchers challenge themselves to think about their personal life experiences and their own beliefs, values and attitudes and then reflect on how these might have shaped their interpretation of the data, in ways that would differ from people with other experiences and views. These reflections are

sometimes included in the final published article. This does not remove these biases, but it does mean that people reading and intending to use the research are better placed to understand how the researcher's personal viewpoints might have affected their research.

In Ainsworth's attachment research, she tried to be objective in her observations of the children in her laboratory. She used two researchers to collect the data and checked for inter-rater reliability. However, her observations of the mother and the infants may have been subjective based on her own life experience. This may have been particularly true of her work in Uganda due to cultural differences which may have made it difficult for her to observe without making value-judgements based on her own Eurocentric upbringing in Canada.

### PRACTICAL APPLICATIONS

Research in developmental psychology has many potential applications, including the creation of policies and interventions designed to promote cognitive, language, social and emotional development. Such strategies may be especially important for families who face greater barriers to their development than others, including lack of resources, low income and social support or access to education and employment. This topic has reviewed several interventions such as The Incredible Years (see page 7), the You Can Do It! Education programme (see page 63) reduce the space here it is aligned with the rest of the paragraph and mindfulness programmes in schools (see page 51). Typically, published research on interventions demonstrates positive effects but this is often a product of publication bias. Studies which show negative and no effects may not enter the public domain, meaning policy makers and senior leadership teams must be careful about introducing new initiatives without thinking critically about the evidence-base, which may not always tell the whole story. Parents and children must always be provided with detailed, age-appropriate information to help them understand benefits and risks, so that they can make well-informed decisions about their participation.

### CHECKPOINT

1. Who were the participants in Bowlby's research using clinical interviewing?
2. Why did Piaget use both closed and open questions in his clinical interviews with children?
3. Is ethnographic fieldwork emic or etic?
4. How did Punch collect data from children in their classrooms?
5. Where did Samantha Punch conduct her research?
6. What is the difference between ethnographic field work and cross-cultural research?
7. Why might a meta-analysis be helpful in developmental psychology?
8. How might a developmental psychologist improve the reliability of their study?
9. Why do qualitative researchers sometimes share their finding with participants after the analysis?
10. Can you name two ways that research in developmental psychology has contributed to society?

**EXAM PRACTICE**

1. Outline one similarity and one difference between ethnographic fieldwork and cross-cultural research in developmental psychology. (2 marks)
2. Explain one strength and one weakness of Punch's ethnographic research. (4 marks)
3. Carlos runs mindfulness sessions for children and their parents/caregivers at his local community centre. Some of the parents/caregivers have commented that they feel much calmer after the sessions and find it easier to interact positively with their children in the following hours. Carlos decides to conduct clinical interviews to investigate these comments further.
  - a) Explain how Carlos could carry out his study. (4 marks)
  - b) Outline one way Carlos could improve the reliability of his findings. (2 marks)
4. Assess whether research into developmental psychology can be considered generalisable. (8 marks)

# CHAPTER 6 ISSUES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- assess the extent to which psychological research in developmental psychology is scientific, drawing on material from Units 1 and 2
- evaluate psychological research in developmental psychology, drawing on material from Units 1 and 2
- assess ethical issues in psychological research as an issue in developmental psychology, drawing on material from Units 1 and 2.

## KEY TERMS

**empirical:** evidence which is acquired directly via the senses as in an observation or experiment and not simply through logical reasoning

**falsifiable:** whether it is possible or not to disconfirm a theory; theories that are unfalsifiable are unscientific

**replicability:** the ability to repeat a study because the procedure is detailed, highly standardised and the researchers have made the original materials available; this term can also be used to describe study findings which have been shown to be consistent (the same) when the studies have been repeated

## GETTING STARTED

Genie was discovered in the 1970s in Los Angeles, in the United States. She was 13 years old but unable to walk having suffered a decade of social isolation, neglect and abuse. She had been confined to a basement with no toys or proper bedding. She had no one to talk to and only received human contact once a day when she was given baby food to eat. Her father claimed that she had a learning disability which is why they hid her away. This is unconfirmed except for some evidence from an EEG taken while she was sleeping, which showed a pattern similar to children with intellectual delays.

Initially, Genie was fostered by one of the researchers that was studying her, however she was quickly moved into the care of another of the team members. As Genie was 13, she had passed through the critical period for attachment and language development, meaning that if she was able to form lasting bonds with anyone or learn to speak, her case would provide evidence against both of these important theories. This is why the psychologists working with her were highly motivated to support her progress. But was their involvement in her care ethical?

See what else you can discover about the case of Genie. It is a fascinating case to explore further and there are some excellent books and films available (e.g. *Genie: A Scientific Tragedy* by Russ Reimer and the award-winning documentary *The Secrets of a Wild Child*). This is an excellent case study that can be used to evaluate many of the theories included in this chapter. However, it can also help you to understand some of the concepts discussed in this chapter.

As you read the sections below, ask yourself:

- How did this study help to falsify theories in developmental psychology?
- What was the scientific status of the study with regard to **replicability**, objectivity and **empirical** evidence?
- What ethical issues does the study raise?

## THE EXTENT TO WHICH PSYCHOLOGICAL RESEARCH IN DEVELOPMENTAL PSYCHOLOGY IS SCIENTIFIC

The extent to which psychology is scientific is hotly debated. However, much of this is due to the extensive scope of the subject matter as well as the differing attitudes, beliefs and values of psychologists around the world. The psychologists discussed in Books 1 and 2 began their careers in a huge variety of academic disciplines from physics to sociology and anthropology, and therefore have very different views about the best way to understand human thoughts, behaviours and emotions. Also the researchers come from different countries in which certain approaches, including methodologies, are favoured over others.

For theories to be classed as scientific, they need to be **falsifiable**. Studies, on the other hand, not only need to be conducted in ways which increase generalisability, validity and reliability (see pages 81 and 82), the research also needs to be replicable, objective and, arguably, empirical.

### FALSIFIABILITY

Theories in psychology are only described as scientific if they are falsifiable. This means that it must be possible to show that the theory is wrong or incorrect. For this reason, a theory is unscientific if it leads to contradictory statements or hypotheses that can both be explained by the theory. An example is the idea that attachment and language development are impossible unless they happen within a critical period. This theory can be tested as, if a child is discovered who has been able to form attachments and speak grammatically despite extreme privation, this would refute (disconfirm) the theory. This is why the cases of Genie (Curtiss, 1977) and Andrei and Vanya (Koluchová 1972, 1992) were so important.

One theory from this chapter which is unfalsifiable is Erikson's theory of the psychosocial stages of development (see Chapter 3). This is because he claims that people aged 30–65 have a high need for generativity, meaning that wellbeing in this stage is determined by involvement in care for others and/or building something for the future. However, it is impossible to test this claim because he also says that people who are overstretched (he called it over-extension) through helping others too much have poor mental health outcomes. Therefore, the association between helping and wellbeing cannot be falsified because although helping others is typically associated with positive mental health outcomes, a study that provides evidence of a link to negative mental health outcomes can still be explained with reference to over-extension.

### REPLICABILITY

The term science itself refers to systematic and organised efforts to increase knowledge of a phenomena in the natural world. This includes developmental psychology, meaning the ways in which the thoughts, feelings and behaviours of humans change over the lifetime. To be considered scientific, research needs to be replicable. Often researchers are able to replicate studies in development psychology, as the open science movement means that materials such as questionnaires and other stimuli are increasingly being made publicly accessible. Likewise, there is a move to publish raw data so that other researchers can verify the conclusions that have been drawn.

Areas of developmental psychology where replication is not impossible include the findings of Bowlby's 44 Thieves study, for example. To verify his diagnoses of the character types of the children, one would need access to the transcripts of the original clinical interviews that he conducted. However, it is unlikely that these interviews were audio-recorded and therefore one could only re-analyse his case notes which may not have included a full record of what the children said. It is likely that he only included details which confirmed his diagnoses. This demonstrates how selectivity in the recording of data may be subjective and makes it difficult for the reliability of the study findings to be tested. However, more recent studies make use of published interview schedules such as the Adult Attachment Interview, meaning researchers could replicate a study which used this interview schedule to collect their own data and check the reliability of the findings.

### OBJECTIVITY

Scientific research should also be objective. This is covered in further detail on page 82 with examples from developmental psychology. One reason that research in developmental psychology may lack objectivity is that researchers sometimes play dual roles. For example, they may be the child's teacher but also be carrying out research on the children in their classes for a postgraduate degree. This was the case for some of the studies of mindfulness discussed in Chapter 5. Similarly, the researchers involved in the case study of Genie (see page 39) were also acting as her therapists and foster carers. This means their research may not have been objective as not only were they highly motivated to refute the critical period hypothesis for language, they were also forming emotional ties to the child, meaning they may have wished to see signs of progress where objectively others may have seen no evidence.

One study that severely lacked objectivity was that of Hazan and Shaver (see page 10). Participants answered a questionnaire about their memories of childhood and their relationships with their parents. This type of evidence is highly subjective, meaning participants may remember their childhoods in very different ways to their siblings and/or parents.



Any form of psychological research with children needs to be done especially carefully

## WIDER ISSUES AND DEBATES

### Practical issues in the design and implementation of research

Carrying out observations can be tricky, as it is sometimes difficult to decide where one behaviour finishes and the next begins. For example, if a child crawls towards the mother, then pulls her trouser leg and grabs her hand, does this count as three proximity/contact-seeking behaviours, or is it all part of one behaviour?

Researchers need to come up with practical decisions which will help them to code what they see efficiently and reliably. In this study, time sampling was a practical solution to this problem. When problems such as this are not addressed, they can lead to problems with replicability, as when data is re-analysed by another researcher, they make different decisions about how to code what they see.

## EMPIRICISM

Many argue scientific evidence should be empirical. This means that when we test psychological theories, it should be possible to collect evidence that can be directly observed. Concepts such as the internal working model are cognitive and therefore impossible to directly observe. However, inferences about the internal working model can be made based on attachment behaviours such as seeking-proximity and stranger fear, which are observable. Evolutionary explanations of attachment, on the other hand, are very difficult to test empirically. We cannot go back in time to observe the process by which organisms that demonstrated attachment were more likely to survive than those that did not. However, animal experiments do allow us to test this. For example, Lorenz was able to show that goslings imprint onto the first moving thing that they see (see page 8), so it is not impossible to test these ideas empirically.

Advances in computer technology and artificial intelligence mean that researchers are increasingly using computer modelling of neural networks to generate and test theories of language acquisition. Data derived from such techniques is arguably not empirical as the machines are not directly observing the stages of language development. They do not have senses and are not conscious in the same way as humans. However, this does not mean that new ways of deriving theory and data in developmental psychology are unscientific, just that older definitions of science may no longer be keeping pace with modern technologies.

## SKILLS

COMMUNICATION, PROBLEM SOLVING

## LINK

For more on replicability, objectivity and falsifiability, see page 86.

## ACTIVITY 1

Your boss says that Bowlby's 44 Thieves study was unscientific. She has asked you to redesign the study and present your ideas at the next team meeting. What changes would you make to improve the generalisability, validity, reliability and objectivity? If you cannot remember what these words mean, see pages 81 and 82. Design a slideshow to show at the meeting.

## THE STRENGTHS AND WEAKNESSES OF PSYCHOLOGICAL RESEARCH IN DEVELOPMENTAL PSYCHOLOGY

Theories in developmental psychology can be evaluated in three main ways:

- whether supporting evidence outweighs conflicting evidence
- whether applications of the theory to everyday life have led to measurable positive or negative effects and whether the theories are capable of explaining real-world situations
- how the theories compare with alternative explanations of the same phenomena in terms of their ability to predict research outcomes and explain real-world events.

Studies in developmental psychology can be evaluated in five main ways which relate to the extent to which the findings are:

- generalisable
- applicable to everyday life
- reliable
- valid
- ethical

Let's consider the Genie case study as an example of how research can be used to support or refute a theory and the importance of evaluating the research before making final decisions about the credibility of theories in psychology. The fact that Genie began to show signs of an attachment to one of the psychologists who worked with her suggests that Bowlby's claims about a sensitive period for attachment may be overstated. Evidence from this study can be used as a weakness of the theory. However, Genie was never able to fully master grammatical speech, suggesting that nativist theories of language development including that of Lenneberg may be correct. This aspect of the study can be used as a strength of Lenneberg's theory.

## KEY TERM

**retrospective:** using historical information and existing records (secondary data)

When drawing conclusions about a theory based on any study it is important to consider the scientific status of the study. In the case study of Genie, there are many weaknesses which reduce the credibility of the evidence that the case study provides. Researchers may have been subjective in their interpretation of her behaviour when she had formed attachments. This suggests that further evidence is necessary before the sensitive period for attachment is abandoned. Likewise, the study may not reveal as much about the critical period for language development as first thought. As some of the case history and findings are **retrospective** it is impossible to establish whether her unusual EEG results indicate a pre-existing learning disability or resulted from her traumatic upbringing. If Genie had a learning disability, this may explain why she found it difficult to learn to speak and may have nothing to do with the critical period.

## ETHICAL ISSUES IN PSYCHOLOGICAL RESEARCH AS AN ISSUE IN DEVELOPMENTAL PSYCHOLOGY

Ethical issues have been discussed in Chapters 4 and 5, and throughout this topic. However, it is important to remember that something is only an issue if it provokes differing points of view. On the one hand, it might be easier to understand that the case study of Genie presents many ethical problems. For example, the researchers arguably did not protect her from further psychological harm. As an extremely vulnerable child, she was clearly unable to give her consent to all the testing that took place and as she had been removed from her parents' care by social services. Some of the same people who were acting as her caregivers/guardians were also the researchers, suggesting that were unable to give consent due to the obvious conflict of interest. Similar issues arise with regard to the right to withdraw. Also when describing a case such as Genie's, it is difficult to maintain confidentiality since the information is so personal, the identity of the person being described may be clear to certain people.

As you can see, there are many reasons why the study can be seen as unethical. However, it is important to also be able to think about why it was important for psychologists to study Genie. Did the study have any benefits to society that could be seen as outweighing the costs to the individual child? Were there any aspects of the study that could be seen as ethical?

### SKILLS

COMMUNICATION, ETHICS,  
TEAMWORK

### ACTIVITY 2

In groups, carry out further research into this case. You will no doubt be interested to discover that Genie's mother brought a legal case against the psychologists who studied her daughter, accusing them of excessive and outrageous testing (PBS, 1997).

Why not run a mock inquiry or trial of your own? One team could defend the Genie research team and argue that their research was scientific and ethical. The prosecution acting on behalf of Genie's mother could argue that the study was unscientific and unethical.

### WIDER ISSUES AND DEBATES

#### Ethical issues in research (animal and human)

The British Psychological Society published their first Code of Professional Ethics in 1950. It was another 28 years before they published Ethical Principles for Research with Human Subjects. When Bowlby published his 44 Thieves study in 1944, there were, therefore, no ethical guidelines for psychologists in the UK. As he was working with both the mothers and the children, it can be assumed that he had parental consent. However, the mothers may not have been aware that their children's names would be used in the final report where children were referred to by their first name. Although an effort was made to anonymise the data by using the child's last initial (for example Fred B), so much personal information was provided that the families may have been easily recognisable to people who knew them. As a lot of sensitive information was provided (for example one mother is described as 'cruel' (Bowlby, 1944), this could have led to undue psychological harm. Furthermore, as many of the children were attending therapies due to referrals from education and legal professionals, the families may not have understood that they had the right to withdraw which could further increase risk of harm.

**EXAM TIP**

Malone et al. (2016) collected their data using interviews and questionnaires. This is useful to know because then you can assess the extent to which evidence for Erikson's theory is scientific.

See if you can find a copy of the Geriatric Depression Scale to learn more about how the questions and the response categories are phrased. This will help you to decide the extent to which this evidence is scientific. Knowing details of the specific measures will help to improve your response.

**CHECKPOINT**

- 1.** Can you name three features that make research scientific?
- 2.** Does the term falsifiability refer to theories in psychology or studies?
- 3.** What is meant by replicable?
- 4.** How could you improve replicability in an interview study?
- 5.** What does it mean if a psychologist plays a dual role and how might this affect the scientific status of their research?
- 6.** What is meant by empirical data?
- 7.** Can you give one reason why Ainsworth's Strange Situation Procedure was ethical?
- 8.** Which of the following can be falsified: sensitive period for attachment or evolutionary basis for attachment?
- 9.** Which of the following can be tested empirically: a child level of vocabulary development or a child internal working model of attachment?
- 10.** Which of the following can be replicated: Koluchová's case study of the Czech twins or Harlow's studies of attachment behaviour in rhesus monkeys?

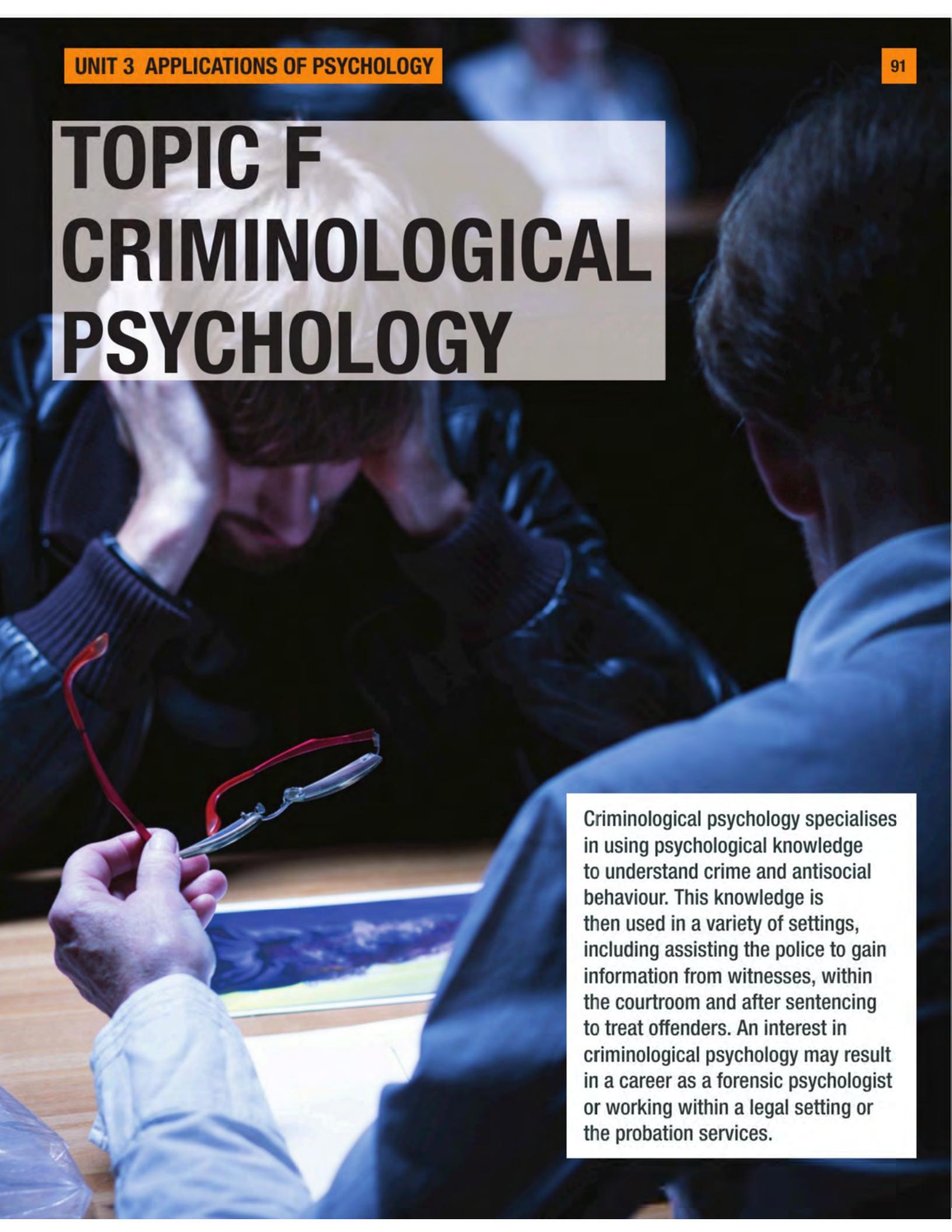
**EXAM PRACTICE**

- 1.** Justify the claim that developmental psychology is not scientific. (2 marks)
- 2.** Explain one ethical weakness of research in developmental psychology. (2 marks)
- 3.** A newspaper reports on the case of a young boy who has been found living in the jungle for five years. He makes snarling sounds and sometimes screams like a monkey. He can only say two words: 'mama' and 'drink'. Developmental psychologists at the local university are excited and say they are looking forward to meeting the boy, who they believe may be extremely helpful to their research. Explain two issues that the researchers must consider to make sure that their research is both ethical and scientific. (4 marks)
- 4.** Gloria is observing peer-mentoring sessions in her local primary school. Nine-year-old children are helping six-year-old children to make cookies including measuring the ingredients and following the instructions. Gloria is using a time sampling to record what the children are doing and saying every 30 seconds for ten minutes. She will then classify the behaviour that she has recorded as positive (older child praises the young child) or negative (older child takes over). She decided to study ten pairs of children.  
Discuss whether Gloria's study can be considered scientific. (8 marks)

# TOPIC F

# CRIMINOLOGICAL

# PSYCHOLOGY

A photograph showing a man from the side, wearing a dark ribbed turtleneck sweater. He is holding a pair of red-framed glasses in his right hand and looking down at a painting on a easel. The painting depicts a landscape with a blue sky and green trees. The lighting is dramatic, with strong highlights and shadows.

Criminological psychology specialises in using psychological knowledge to understand crime and antisocial behaviour. This knowledge is then used in a variety of settings, including assisting the police to gain information from witnesses, within the courtroom and after sentencing to treat offenders. An interest in criminological psychology may result in a career as a forensic psychologist or working within a legal setting or the probation services.

# CHAPTER 7 EXPLANATIONS FOR CRIME AND ANTISOCIAL BEHAVIOUR

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate self-fulfilling prophecy as an explanation for antisocial behaviour
- describe and evaluate social learning from the media as an explanation for antisocial behaviour
- describe and evaluate antisocial personality disorder.

## GETTING STARTED

In a small group, list five different types of crime. Now think of as many reasons as you can why people commit these crimes – it is likely that you will have a long list. Now consider and discuss which reasons best explain which crime – there may be multiple reasons for one crime.

Explaining crime can be difficult because of the large number of reasons why crimes are committed: some are social or economic reasons, some related to mental disorders and others may be biological explanations. Explaining criminal behaviour is challenging because it can be influenced by many factors.

## CRIMINAL AND ANTISOCIAL BEHAVIOUR

The area of criminological psychology is important to psychologists as well as the general public. Crime rates and antisocial behaviour are often heavily represented in the media. Criminal behaviour also causes considerable financial loss to governments and suffering to the victims of crime. Understanding criminal and antisocial behaviour and those who commit it will help to reduce offending.

Committing a crime is when you break the law. Antisocial behaviour is when someone acts in a way that causes harassment, alarm or distress to others, which does not in itself break any law. Antisocial behaviour can include being excessively noisy, not controlling animals, intimidating other people and making hoax calls. If you are found to be committing antisocial behaviour in the UK you can be issued with an antisocial behaviour order which lists what you cannot do. If you violate an antisocial behaviour order you can be prosecuted.

The term 'antisocial' and 'criminal' have different meanings but are often used interchangeably. Psychologists aim to understand the circumstances of the individual to consider, on an individual basis, what changes need to be made for that person. This then allows psychologists to look for patterns that are more prevalent among the offending population.

## SELF-FULFILLING PROPHECY AS AN EXPLANATION FOR ANTISOCIAL/CRIMINAL BEHAVIOUR

### KEY TERM

**self-fulfilling prophecy:**  
when someone acts in accordance with the label they have been given

**Self-fulfilling prophecy** is a theory which explains that a behaviour may result from a belief or expectation someone has. This expectation influences a person's behaviour in such a way that it causes the expectation to come true. For example, if a teacher believes that you are not very good at maths they may treat you differently; they may have lower expectations for your success or offer you limited opportunities to excel. This treatment may negatively impact your maths performance and ultimately lead to you underachieving in maths.

Self-fulfilling prophecy can be best described as a process (see Figure 7.1). Initially a false expectation is believed about a person, so they are labelled as being a particular type of person. The person is treated differently according to the expectation/label, they may be given attention for the behaviour which is consistent with the expectation, and any behaviour

inconsistent with the expectation is ignored. The person begins to internalise the label they have been given, and eventually acts in a way consistent with that label – they fulfil the prophecy that has been set.



► Figure 7.1 The self-fulfilling prophecy process (Pygmalion Effect)

In the context of criminal behaviour, a person may be falsely labelled as criminal or antisocial. This will cause people around them to have the expectation that they will cause trouble. People will treat them with suspicion or caution, ignoring good behaviour that is not consistent with the criminal label. Being treated differently may lead to the labelled individual being isolated from normal society and so they may be drawn into criminal groups. The person begins to internalise this label and cause trouble because it is expected of them. This may influence them to engage in criminal activity or associate themselves with criminals. Once they have committed an offence they have confirmed the expectation and become a criminal.

### WIDER ISSUES AND DEBATES

#### Nature–nurture

Self-fulfilling prophecy is a theory of criminality that emphasises environmental factors which contribute to the development of antisocial/criminal behaviour because of the way people are treated by others. Some people are exposed to the type of labelling associated with criminal behaviour, whereas others are not. For example, a child may come from an antisocial family, where various members of the family have been involved in crime. Others may expect the child to also engage in criminal behaviour and treat them according to these expectations. This suggests that upbringing can influence criminality. However, this theory ignores the role of innate influences, such as biological reasons for criminality, such as brain functioning or genetics.

### EVALUATION OF SELF-FULFILLING PROPHECY AS AN EXPLANATION FOR ANTI SOCIAL/CRIMINAL BEHAVIOUR

Robert Rosenthal and Lenore Jacobson's 1968 study explained the impact of self-fulfilling prophecy within an academic setting in San Francisco, USA. They wanted to find out if teachers would react differently towards particular students if they were told that some students would learn more information and more quickly than other students. Some students were labelled as being academic 'bloomers' with great potential. In fact, students were allocated to this group randomly, not according to their level of intelligence. Rosenthal and Jacobson ran the study for a year, allowing them to observe if the teachers treated the 'bloomers' differently. IQ scores

were measured for all students at the start and end of the year to measure for educational performance. The study found that the IQ of students who had been identified as 'bloomers' was significantly higher than the non-bloomers, despite the 'bloomers' not necessarily being those with the highest IQ scores at the start of the study. They concluded that the teachers' expectations of the students influenced their behaviour towards them, and it was this behaviour that influenced the change in IQ scores. This indicates that the beliefs of teachers can result in their prophecies about the students' education coming true.

The Rosenthal and Jacobson 1968 study was well controlled and helpful in explaining learning processes, but it has a number of significant issues. It was an unethical study as it allowed some students to receive less attention than others, interfering with their education. Additionally, the teachers were deceived about details within the study. While this study is not directly related to criminal behaviour, it demonstrates how individuals internalise the expectations of those around them.

Gustav Jahoda (1954) provided support for the self-fulfilling prophecy and the application of labels to children in relation to antisocial behaviour. He studied the Ashanti people from Ghana, who name boys according to the day they were born. The Ashanti have expectations for the personality of the boys born on each day. For example, 'Monday' boys are considered quiet and placid, and 'Wednesday' boys are thought to be aggressive and short-tempered. After looking at five years of records at a local juvenile court, Jahoda found that nearly 22 per cent of violent offences were committed by boys born on Wednesday, but only 6.9 per cent by boys born on Monday. This suggested to him that cultural expectations about the boys' natures and their explicit labels led to them being treated differently according to their day of birth (for example, the boys born on Wednesday would have been treated with greater suspicion). As a result, many have conformed to the label set by their own namesake.

There is no proven direct link between an individual's IQ levels (Rosenthal and Jacobson, 1968) to criminality. There is limited research in the area of self-fulfilling prophecy and crime, with the exception of Jahoda (1954). These studies provide an explanation of academic and antisocial behaviour from which estimations can be made about the potential influence of the criminal-related expectations of others and subsequent behaviour.

The ethical and moral issues surrounding research into self-fulfilling prophecy and antisocial behaviour are so great that it prevents experiments in this area. This will make it unlikely that self-fulfilling prophecy as a cause of antisocial behaviour can be proven (or disproven). As a result, it is only possible to suggest a correlation between self-fulfilling prophecy and antisocial behaviour. There may be other variables influencing the behaviour of the individual in these cases.

Much of the research into the self-fulfilling prophecy has been in education, investigating the teacher-child relationship. Other relationships may not have the same effect. This makes the application of self-fulfilling prophecy to other behaviours, such as criminality, limited. It is also very difficult to study self-fulfilling prophecy because it is by definition a false belief. Beliefs are often studied using self-report measures, which rely on individual insight, self-disclosure and honesty.

All research undertaken demonstrates a correlation between antisocial behaviour and self-fulfilling prophecy. This link cannot be accepted as a causal link as other variables may also influence behaviour, including biological factors, such as brain functioning or genetics. Self-fulfilling prophecy fails to account for other factors that may influence an individual's behaviour. It excludes peer pressure, politics, biological factors and social or economic circumstances. These other variables may also increase the likelihood that an individual will engage in antisocial behaviour.

#### LINK

For more on correlation, see Student Book 1, page 185.

Self-fulfilling prophecy does not take into account how an individual learns the antisocial behaviour they are expected to carry out. An alternative theory to explain crime is that of social learning theory, discussed next, which does consider the influence of observing antisocial behaviour on the individual. This suggests that the self-fulfilling prophecy explanation cannot be the only social explanation for such behaviour, and that other factors must also be present in order for an individual to engage in antisocial behaviour.

## SOCIAL LEARNING THEORY AS AN EXPLANATION OF ANTISOCIAL/CRIMINAL BEHAVIOUR

Social learning theory is a social–cognitive theory that explains criminal behaviour as being the result of modelling such behaviour from observing it via the media or watching other people.

Social learning theory suggests that an individual cannot learn offending behaviour without observing someone commit a crime, either directly such as a peer or indirectly through watching crime-related television programmes. The individual must be motivated to reproduce the observed behaviour, which occurs as a result of **vicarious reinforcement**. If an individual watches a criminal getting away with an offence or reaping the rewards, this may act as vicarious reinforcement for the observer. On television, antisocial behaviour and criminality are often glamorised and violence can be committed by 'good guys'. Criminal characters from the media may act as role models as they are often people who have power, or they may be the same gender as us. These role models may provide vicarious reinforcement, particularly in the absence of punishment and with only the sanitised effects on the victims shown.

Social learning theory highlights the importance of the cognitive thinking processes of a person, as someone may choose not to commit a crime immediately after observing it; the behaviour can happen much later. If news or crime programmes document some of the negative consequences of committing an offence, this may work towards encouraging an individual not to try the offence to seek a positive outcome.

### LINK

For more on social learning theory, see Student Book 1, page 240.

### KEY TERM

**vicarious:** learning through the consequence of another person's behaviour

### SKILLS

ADAPTIVE LEARNING,  
SELF-REINFORCEMENT

## ACTIVITY 1

Social learning theory is a topic that you will have studied before, so you should be familiar with the key terms associated with observational learning. It is important in the examination that you apply social learning theory to criminal and antisocial behaviour, so practise this here by using a concrete example, such as watching someone steal on television. Copy out the table here and fill in the final column; the first one has been done for you as an example.

Key term	Definition	Applying the key term to explain stealing
Attention	Observing someone perform a behaviour	Example: A teenager observed a friend shoplifting from a store.
Retention	Remembering the behaviour	
Role model	Someone we look up to who may be of higher status and the same gender.	
Reproduction	Copying the behaviour witnessed	
Vicarious reinforcement	Witnessing the role model receive a reward for a behaviour	

### THINKING LIKE A PSYCHOLOGIST

Now that you have learned about two explanations for criminal/antisocial behaviour, think about how a psychologist might go about creating intervention programmes to prevent crime. Consider how an intervention programme might be designed, who it would target and how it would be implemented and evaluated to assess whether it would be effective.

### LINK

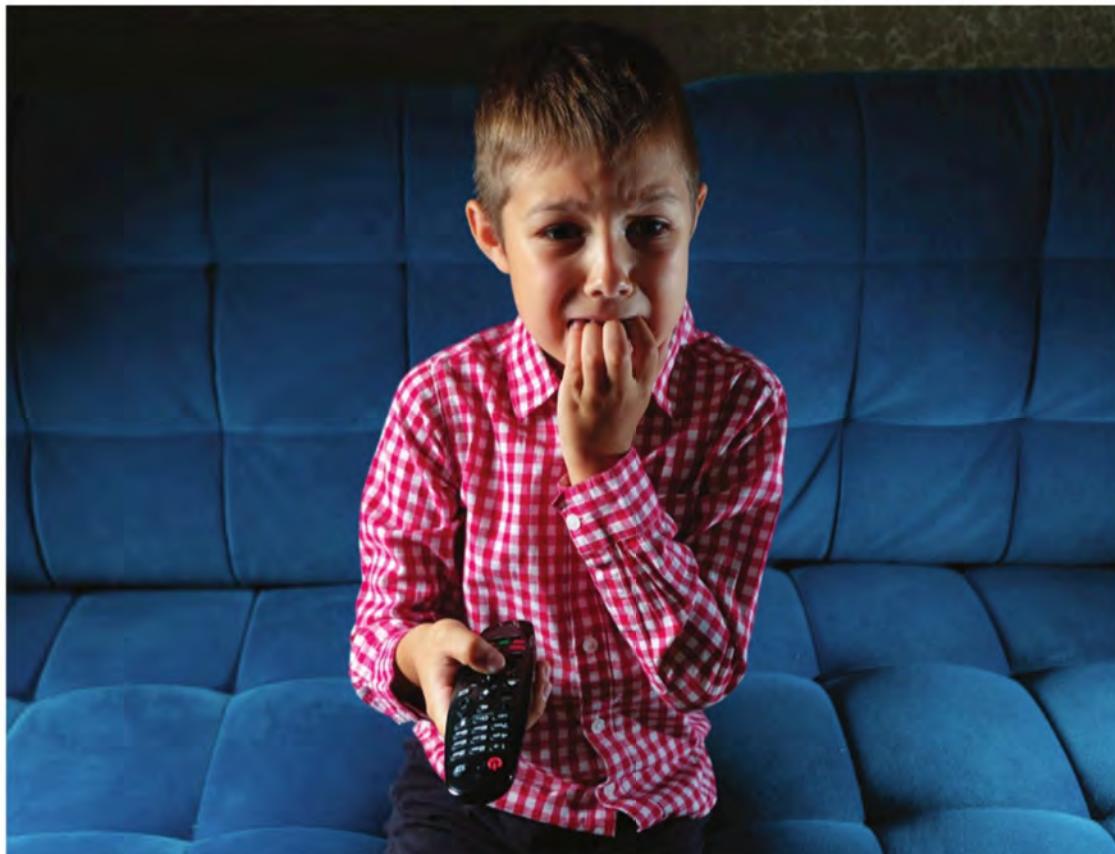
You studied Bandura's research in Student Book 1, Topic C, Chapter 15, page 162.

### EVALUATION OF SOCIAL LEARNING THEORY AS AN EXPLANATION OF ANTISOCIAL/CRIMINAL BEHAVIOUR

Studies into the portrayal of violence in the media have adopted a range of research methods to investigate its effects. Albert Bandura, Dorothea Ross and Shiela Ross (1963) found experimental evidence that children copied aggression from watching a video recording of adults behaving aggressively towards a Bobo doll.

They also found that children were equally likely to copy aggression from a cartoon version where the aggressive adult was dressed as a black cat. This study offers evidence that children copy antisocial behaviour from television, although the long-term impact of witnessing aggression was not followed up so we do not know whether the children developed antisocial behaviour beyond the experimental context.

Tannis MacBeth Williams (1986) used a natural experiment to investigate the introduction of television to a small community in British Columbia, Canada. Of the 16 young people that she studied, she found that after only two years of receiving television, these children were twice as aggressive as two control groups she studied in nearby communities who had been brought up with television in varying amounts. This might offer some evidence for social learning theory as an explanation of criminality, although Williams herself suggested that increased aggression was more likely to be a result of the increased value placed on materialistic lifestyles than the violence that they were exposed to in television programmes.



How does watching violence on television affect children? ►

Correlations have also been conducted to establish whether there is a relationship between watching violent media and aggressive behaviour. In a meta-analysis of correlational studies, George Comstock and Haejung Paik (1994) concluded that many reported a positive correlation between television violence viewed and aggressive measures of behaviour recorded, with an overall correlation coefficient of +0.19. This correlation is not particularly strong and is significantly affected by the large sample sizes used in some of the studies, which tend to make findings appear significant when they are not. It is also worth considering that correlations only show relationships between measured variables. They do not establish causality, measure other variables that could have an effect on aggression, nor indicate the direction of possible causality. It could be that aggressive children seek out and prefer violent programmes.

There may be the influence of a third, unmeasured variable, such as social class. Children from lower socioeconomic status watch more television than those in higher socioeconomic groups, and are also more likely to be **delinquent** (Flood-Page et al., 2000). Other factors such as individual motivation, personality characteristics such as sensation seeking (Slater et al., 2004) and antisocial personality disorder may also account for criminality.

What we can conclude from the research into social learning theory and antisocial behaviour is that there is no convincing evidence that criminality is a result of observational learning, particularly as a result of observing media portrayals of violence. Despite a phenomenal amount of research conducted using a range of research methods, there is no unequivocal evidence that links exposure to violence with aggression or antisocial behaviour. All the research indicates is that the relationship between exposure to violence and aggression is neither simple nor straightforward.

## ANTISOCIAL PERSONALITY DISORDER (ASPD) AS AN EXPLANATION FOR CRIMINAL BEHAVIOUR

A personality disorder is when an individual's way of thinking, feeling or relating to others differs significantly from that of a person without a personality disorder. It reflects extremes in people's personalities. A personality disorder requires a clinical diagnosis. Antisocial personality disorder (ASPD) can be diagnosed through official classifications such as **Diagnostic and Statistical Manual of Mental Disorders (DSM-V)** and International Statistical Classification of Diseases and Related Health Problems (ICD-11).

### LINK

You will study these classifications in Topic H (see pages 264 to 266).

These provide clear guidance for professionals to follow to ensure that there is consistency in the diagnosis given to people with the same symptoms.

Antisocial personality disorder, sometimes referred to as dyssocial personality disorder, is characterised by a persistent disregard for the rights of others. A diagnosis of antisocial personality disorder should also include three or more of the following characteristics:

- disregard for social rules or respect for lawful behaviour e.g. harassment, stealing
- deceit and manipulation; lying, using aliases, conning others for personal or financial gain
- impulsivity or failing to plan ahead
- aggression and irritability e.g. getting into fights
- reckless disregard for their own or other people's safety e.g. reckless driving
- irresponsible behaviour, such as failing to honour work or financial obligations
- lack of remorse for wrongdoing or harm.

**SKILLS**

ANALYSIS, CRITICAL THINKING

**ACTIVITY 2**

Link the following behaviours to a characteristic of antisocial personality disorder:

- Tamara screams aggressively at the neighbours every time they walk by her house
- Sanya plays her music very loudly and insults people when they ask her to turn it down
- Demi steals money from her mother's purse
- Ruhie lies to his teachers
- Lola regularly fails to show up for work.

People with antisocial personality disorder are likely to get into trouble or be arrested because they fail to respect lawful behaviour. They may also get involved in fights or assault another person and tend to disregard personal safety or the safety of others. They may also display indifference at harming or mistreating other people. Although antisocial behaviour disorder is not diagnosed until the age of 18 years, evidence of conduct issues should be seen before the age of 15 years.

People with antisocial personality disorder tend to commit one of four categories of offences:

1. Aggression towards people or animals
2. Property offences
3. Theft or deceit
4. Serious violation of rules.

Other features of antisocial personality disorder can include displays of arrogance, being superficially charming, being exploitative and failing to properly care for their children. The prevalence rate for antisocial personality disorder is between 1 and 4 per cent of the general population (Lenzenweger et al. 2007), although this is significantly higher in subgroups of the population (males with substance abuse in clinics or prison). It is much more common in males compared to females, but is thought to be under-diagnosed in females due to the emphasis on aggressive characteristics necessary for diagnosis. Individuals with antisocial personality disorder may also suffer from other conditions, such as anxiety or depressive disorders, substance misuse or attention deficit/hyperactivity disorder.

While an individual with antisocial personality disorder has a higher risk of criminality, their offending should not be used to diagnose the disorder. To be clinically diagnosed, an individual should display antisocial characteristics which are inflexible, persistent and cause significant impairment in functioning or cause distress.

It is widely believed that antisocial personality disorder is caused by both genetic and environmental factors. This is because it is more common among first degree relatives compared to the general population, and is more common in individuals with low socioeconomic status and who live in urban areas.

### **EVALUATION OF ANTISOCIAL PERSONALITY DISORDER AS AN EXPLANATION FOR CRIMINAL BEHAVIOUR**

Sheilagh Hodgins and Giles Côté (1993) investigated the link between mental disorders and offending by comparing offenders with antisocial personality disorder and those without antisocial personality disorder. They found that offenders with a diagnosis of antisocial personality disorder had a significant history of offending during childhood, and more convictions in adulthood than offenders who did not have antisocial personality disorder. This research suggests that the disorder leads to a strong risk of offending.

**EXAM TIP**

In the exam, you may be asked to 'justify' why a theory, like antisocial personality theory, is a credible explanation for criminal/antisocial behaviour. The command word 'justify' requires you to rationalise a decision. The best way to justify whether a theory is credible is to offer evidence in the form of a research study that can be used to support the theory. Evidence makes a study more credible.

The cause of antisocial personality disorder is still debated, however there is evidence for a genetic basis for the disorder which comes from twin studies. Twin studies compare the similarity between monozygotic (identical) twins and dizygotic (fraternal) twins.

**LINK**

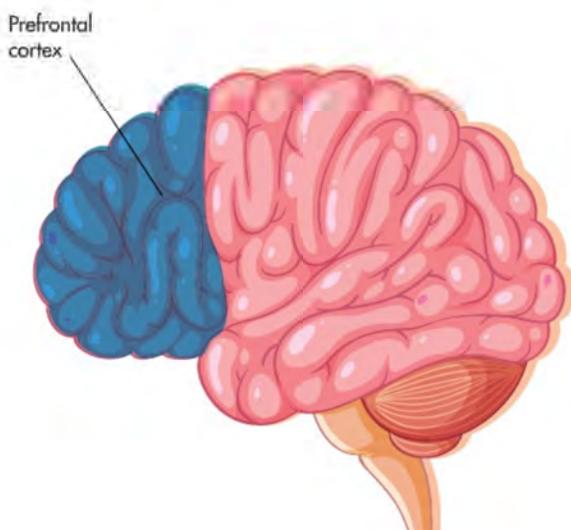
You studied twin studies in Student Book 1, see page 197.

Svenn Torgersen et al. (2008) assessed the personality traits of 1386 twin pairs in a Norwegian sample using a structured interview. Comparing their traits to the DSM IV criteria, they found that genetic heritability accounted for 38 per cent of twin diagnosed with antisocial personality traits. This suggests a significant genetic basis for antisocial personality disorder. Furthermore, Dehryl Mason and Paul Frick (1994) describe 12 twin and three adoption studies which suggest that 50 per cent of the variance in measures of antisocial behaviour were attributable to genetic factors. In a meta-analysis of genetic research into antisocial personality and behaviour, Christopher Ferguson (2010) analysed the data of 38 studies published between 1996 and 2006. Using a combined sample of 96 918 participants, he found that genetic factors accounted for 56 per cent of the variance in antisocial personality and behaviour. This offers credibility to the theory that criminality has a biological basis.

Further biological evidence comes from brain imaging studies. Yaling Yang and Adrian Raine (2009) conducted a meta-analysis on 43 brain scan studies (including structural and functional brain scans) and found significantly reduced grey matter and reduced function in the prefrontal cortex for individuals displaying antisocial behaviour. The prefrontal cortex is known to moderate aggression, so impairment in this area may explain antisocial behaviour (see Figure 7.2). It is suggested that the prefrontal cortex impairment could have been inherited or acquired through brain damage. Other brain differences have been found including the amygdala and temporal lobe. This research further supports a biological basis for criminal and antisocial behaviour.

**LINK**

Go back to Student Book 1, page 157 to refresh your knowledge of the structure of the brain if you need to.



► Figure 7.2 Reduced grey matter and function in the prefrontal cortex may explain antisocial behaviour

Antisocial personality has its roots in childhood and cannot be formally diagnosed without evidence of antisocial behaviour before the age of 15 years. A longitudinal study by Emily Simonoff et al. (2004) provides credibility for this as they interviewed 225 childhood twin pairs diagnosed with conduct disorder in childhood, which predicted antisocial personality disorder in adulthood in those who showed criminal behaviour 10–25 years later. This can have important implications for the identification of problem behaviour during childhood, and possible intervention programmes that could be used to prevent later criminal behaviour in adulthood.

### KEY TERM

**comorbidity:** the presence of more than one disorder in the same person

Investigating antisocial personality disorder is complex, not least because diagnosis is problematic due to a high level of **comorbidities** that may exist. There are environmental factors also associated with antisocial personality disorder, such as adverse childhood circumstances, low socioeconomic class and urban living. While it could be that these factors could contribute to the development of antisocial personality disorder, it could instead be that this subgroup engage in protective behaviours or strategies which resemble antisocial personality disorder and therefore are misdiagnosed.

The risk of offending is significantly elevated in individuals with antisocial personality disorder but it is not inevitable. Some people with antisocial personality disorder may not commit criminal offences and can live functional lives in terms of employment and having relationships. The risk of offending can vary among individuals and factors such as the severity of symptoms, having comorbid conditions like ADHD or substance misuse, and upbringing can increase risk.

### CHECKPOINT

- There are three theories of crime and antisocial behaviour, which are self-fulfilling prophecy, social learning theory and antisocial personality disorder. Which of the following key terms would you associate with each of the theories?

Vicarious reinforcement	Labelling	Formal diagnosis
Treated differently	Impulsivity	Expectation
Reckless behaviour	Role model	Attention

- In this chapter you will have read about three pieces of research:
  - Jahoda (1954)
  - Simonoff et al. (2004)
  - Williams (1986).
 For each, give a brief description of the findings (one or two sentences is enough).
- Name three characteristics of antisocial personality disorder.
- Name two possible sources of aggression from which children can learn antisocial behaviour.
- Who found a link between violent offending and the day of the week in which they were born?
- Describe what is meant by antisocial behaviour.
- Why is it not possible to experimentally test whether antisocial behaviour is caused because of a self-fulfilling prophecy?
- What is meant by 'vicarious reinforcement'?
- How might vicarious reinforcement explain aggression or antisocial behaviour?

**SKILLS**ANALYSIS, CRITICAL THINKING,  
PROBLEM SOLVING**EXAM PRACTICE**

- 1. a)** Describe antisocial personality disorder (ASPD) as an explanation of criminal and antisocial behaviour. (2 marks)
- b)** Justify how antisocial personality disorder (ASPD) can be considered a credible explanation of criminal and antisocial behaviour. (2 marks)
- 2.** Justify self-fulfilling prophecy as an explanation for crime and antisocial behaviour. (2 marks)
- 3.** Luca enjoys playing violent video games. In these games Luca has to fight other video game characters. Luca is very good at winning these fights and has recently won an online competition for being the most successful player and winning fights. Luca's parents have started to notice that he is being more aggressive at home, often getting into fights with his younger brother. He has also started getting in to trouble at school for fighting in the playground. Discuss how social learning theory could account for Luca becoming aggressive. (8 marks)

# CHAPTER 8 UNDERSTANDING THE OFFENDER

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate the cognitive interview as it is used on witnesses
- describe and evaluate psychological formulations of offending behaviour in the individual.

## GETTING STARTED

Read this extract about a crime from a newspaper:

On Monday morning, the ordinary calm of the city was shattered when a group of masked individuals stormed into the City Bank in a daring bank robbery. The individuals were dressed in dark clothing, with concealed faces and armed with a variety of weapons. The customers were making their everyday banking transactions when the robbery took place. The menacing robbers herded the customers and staff to the back of the bank. The chaotic scene was commanded by a ringleader who created an air of fear. The robbery took place with precision and meticulous timing, as the criminals breached the bank's vault and filled their bags with stacks of currency. The criminals left swiftly, leaving behind trembling customers and bank staff unsettled by their ordeal. This brazen robbery occurred in daylight and the bank was surrounded by commuters travelling to work. Within minutes of the criminals disappearing on foot through the city streets, law enforcement officers arrived, swarming over the bank and gathering together the witnesses.

In pairs, imagine that you are police officers involved in gathering witness testimony. Write down seven questions that you will ask the witnesses about the crime.

Think about what you have learned about reconstructive memory. Now review your questions and consider whether any of them would mislead the witness or activate schemas which might inadvertently be used to alter the answers given by a witness. How could you change your questions to make them better?

### LINK

To refresh your knowledge of reconstructive memory see Student Book 1, page 96.

## COGNITIVE INTERVIEW TECHNIQUES WITH WITNESSES

The cognitive interview (Fisher and Geiselman, et al. 1984) is a specific way of asking a witness questions about an incident. It is designed to maximise the accuracy of the information obtained. If inaccurate information is taken during a police interview, the wrong person may be charged with an offence, leading to a wrongful conviction. This also means that the actual offender has got away with the crime. Or it could mean that an offender has to be acquitted of a crime because their testimony is found to be unreliable.

Before the development of the cognitive interview, standard interviewing typically involved a police officer asking a witness specific questions about what they had witnessed. The standard interview mainly consisted of 'who, what, when, where?' type questions, with the interviewer directing the flow of the conversation.

Psychologists have worked with the police to develop the cognitive interview using their knowledge of how memory works. The cognitive interview is based on two principle concepts of cognitive psychology:

1. Memory for an event is not a faithful account of what was actually witnessed as described by Frederick Bartlett's (1932) reconstructive memory theory.
2. When we experience an event we encode all of the details about the environment/context in which it was experienced (sights, sounds, smells) and the emotional state which we were in at the time of the event. This is based on Endel Tulving's (1974) context dependent memory. Reinstating the context or state we were in can act as a cue to the memory.

There are four main techniques used within the cognitive interview, as guided by Geiselman et al. (1985):

1. Reinstate the context/state at the time of the event. Encouraging witnesses to mentally recreate/relive the event, such as how they felt, the weather, smells, time of day, etc. helps to put the person back in time to the incident and may improve recall because context and state cues may jog their memory of the incident. This supports cue-dependent memory.
2. Report everything. Allowing the witness to freely recall a narrative of the situation gains an initial account, without interruption. The interviewer will encourage the witness to report everything, even if it seems trivial or unrelated to the event. There is then scope for the interviewer to ask further questions to clarify significant moments for more detail. Witnesses may exclude details they feel are irrelevant or trivial, but these unimportant detail can act as a memory cue for key information about the event.
3. Change the order in which the event is recalled. As we tend to remember situations in the order in which they happened, we are more likely to reconstruct a story and draw on an existing schema. This 'story telling' can result in a witness embellishing the story or filling in gaps in the narrative with their schema, which can result in unreliable testimony. Recalling events in reverse or a different order can help interrupt schema activation and can help to prevent story formation.
4. Change perspective. Trying to adopt the viewpoint of a different witness, for example a prominent character in the incident, can encourage recall of events that may otherwise be omitted. Cueing the person to specifically focus on a different perspective of the situation can increase accurate recall and also discourage the witness from drawing on their own schema of what they would expect to have happened. It has to be made clear that the witness only reports what they know, and not what they think the other person would have seen.

## SKILLS

INTERPRETATION, INNOVATION,  
SELF-DIRECTION

### ACTIVITY 1

Go back to the Getting Started feature at the beginning of this chapter. Reread the extract of the bank robbery and this time consider what questions you would ask the witnesses if you were using the cognitive interview techniques described.

This approach will maximise a witness's ability to recall events, and minimise the extent to which witnesses can use prior knowledge or expectations to fill in any gaps they may have which can lead to inaccurate recall.

In order to ensure accurate information is obtained, the police officer undertaking the interview should establish a good rapport with the witness. Then the witness should be encouraged to report everything without being interrupted. Once the witness gives their

initial testimony, the interviewer should ask questions that are aimed at clarifying details from the testimony. They should use techniques, such as mentally reliving the incident, or recalling from a different order. The interviewer needs to ensure that they do not ask leading questions that provide a hint about a desired answer. They should ask open questions that do not imply a specific answer and encourage free recall.

The enhanced cognitive interview (Fisher and Geiselman, 1992) uses the same techniques as the cognitive interview, but incorporates more techniques. The main aim of the enhanced cognitive interview is to support the witness through reliving the event and ask questions appropriate to the witness's intellectual level while minimising distractions. The first phase involves establishing a personal connection with the witness before they are asked to report everything they experienced. The cognitive interview techniques of context reinstatement and change order are supported by open questions which are suitable to the intellectual level of the witness, taking into account their social and cultural background. The approach is intended to be witness led, rather than controlled by the interviewer, however it requires significant training in interpersonal skills.

### EVALUATION OF THE COGNITIVE INTERVIEW

Edward Geiselman and colleagues (1985) compared the cognitive interview with a standard interview technique and an interview under hypnosis, using 89 undergraduate students from the University of California. Participants were shown a film of a violent crime lasting around four minutes. The film depicted one of: a bank robbery, a liquor store holdup, a family dispute or a search through a warehouse, during which at least one individual was shot and killed. Each participant was interviewed by one of 17 interviewers recruited from a variety of professions: police detectives, Central Intelligence Agency investigators, polygraph specialists and private detectives.

Each interviewer had completed a forensic hypnosis course and had field experience on hundreds of cases. Then 48 hours after watching the film, each of the participants were interviewed using one of the interview techniques. Participants interviewed using a standard interview were asked to give a report of what they witnessed, and then the interviewers were to ask them questions about their report as they normally would. Participants interviewed under hypnosis were first asked to report what they witnessed, then were hypnotised and asked questions about their report. Participants in the cognitive interview were interviewed using the four cognitive interview techniques: report everything, reinstate context, recall the event in different orders and change perspectives. The number of correct and incorrectly recalled items were recorded as well as items that were **confabulated**, as shown in Table 8.1.

TABLE 8.1: AVERAGE NUMBER OF ITEMS RECALLED FROM THE DIFFERENT TYPES OF INTERVIEW USED IN GEISELMAN ET AL. (1985) STUDY

Average number of items recalled	Hypnosis interview	Cognitive interview	Standard interview
Correct items	38.00	41.15	29.40
Incorrect items	5.90	7.30	6.10
Confabulated items	1.00	0.70	0.40

They concluded that recall using the cognitive interview was significantly better than using a standard interview (Table 8.1). They also reported that hypnosis may have been effective because participants would have been encouraged to mentally recreate the context of the crime. There was no significant difference in errors made between the interview types. This suggests that the memory techniques employed during the cognitive interview facilitated better recall.

### KEY TERM

**confabulated:** falsely recalled

## WIDER ISSUES AND DEBATES

### Psychology as a science

Laboratory-based research within eyewitness testimony is commonly used. This creates an artificial situation in which participants undertake tasks to determine their ability to recall artificially created film clips of crimes. The laboratory setting is very controlled to minimise extraneous variables, such as what the witness observes, or preventing witnesses from collaborating, affecting the findings of the research. In removing these extraneous variables, and creating such a controlled setting to undertake the task, the study and its findings cannot be considered ecologically valid. The participants might generate significantly different results if they were to observe a real crime, and be affected by all the additional variables present in a real-life situation that have been controlled for within a laboratory setting.

### LINK

To refresh your understanding of ecological validity, see Student Book 1, page 109.

Other studies have shown a positive effect on recall when using the cognitive interview in more ecologically valid settings, such as in relation to real crimes. Fisher et al. (1989) found that after training, detectives gained as much as 47 per cent more useful information from witnesses to real crimes compared to untrained officers.

### EXAM TIP

In the exam, you could be asked to 'justify' the use of the cognitive interview. You can use this research to 'justify' the use of the cognitive interview by police and demonstrating how it can improve witness recall.

Günter Kohnken et al. (1999) conducted a meta-analysis comprising 42 studies (involving 55 comparisons) of the effects of the cognitive interview and standard interview on correct and incorrect recall. From an analysis of the outcomes of 2447 interviews, the cognitive interview yielded significantly more correctly recalled details than the standard interview. They also found that more incorrect details were reported from a cognitive interview compared to the standard interview, although this effect was smaller than the comparison of correctly recalled details. Further analysis looking at the overall accuracy rate of the cognitive and standard interview (calculating the proportion of correct details relative to the total number of details recalled) found that the cognitive interview generates significantly more information being recalled, and that this is no less accurate than the standard interview.

Robyn Holliday (2003) examined the usefulness of the cognitive interview with young children aged 4–5 and 9–10 years of age. She found the cognitive interview yielded more correct information from the older children. She also found that older children presented with misleading information after the interview were less likely to be influenced by the misinformation if they had undergone the cognitive interview. This suggests that very young children may struggle with aspects of the cognitive interview, and also that a cognitive interview may inoculate older children against misinformation because it strengthens the memory of the event.

One weakness of the cognitive interview is that it may have limited use when applied to policing in the field. Coral Dando et al. (2008) conducted a survey on 221 less experienced police officers concerning their perception of police interviewing practices. They found that the benefits of the cognitive interview are not equally perceived, and that they felt inadequately trained. They also cited that time constraints often prevented them from applying the technique in real situations. A criminal investigation can be chaotic and busy, which is not always conducive to undertaking a cognitive interview approach. Also, using this approach is not always helpful at the scene of the crime when it is important that immediate information is obtained in order to try to catch the perpetrator.



The cognitive interview may not be possible or useful when police officers are trying to establish immediate facts from a crime scene ►

The cognitive interview has been proven to be very successful in increasing the amount of information about crimes that can be obtained from eyewitnesses. However, it is possible that asking a witness to consider another perspective may result in speculation, despite instructions not to. Amina Memon et al. (1997) found that while participants recalled more information about a short clip of a shooting, they also made more errors in recall and confabulated details. Further research needs to be undertaken to establish if all four components of the cognitive interview are required or if one component has a greater contribution to success than another. This is particularly important when undertaking a cognitive interview on young children, who may find techniques such as 'changing perspective' challenging.

### THINKING LIKE A PSYCHOLOGIST

Ethics should underpin all of the work of a psychologist. This applies when conducting research but also within clinical practice, for example, when working with individuals such as eyewitnesses. It is important for psychologists to achieve their aims, providing the techniques to gain accurate information, but it is also important that these are achieved in a supportive, ethical way.

When being interviewed, witnesses are likely to be distressed at what they have seen. Witnesses can be of any age, so may not be adults, and therefore it may be necessary to think about how you would need to work differently with them, for example whether you might need to gain consent, etc.

Consider the following questions:

What are the key ethical issues to be considered when interviewing all witnesses?

Does anything different need to be done when interviewing younger witnesses, or other vulnerable witnesses, such as those with lower levels of understanding?

## THE USE OF PSYCHOLOGICAL (CASE) FORMULATION TO UNDERSTAND THE FUNCTION OF OFFENDING BEHAVIOUR IN THE INDIVIDUAL

The role of a psychologist is often that of a 'consultant', helping to guide the work of other professionals such as the police. This can be through indirectly observing and reviewing the work practices of others, using psychological theories to inform any decision or suggestion they make. Additionally, in many situations the psychologist may speak to the offender directly, asking them questions to find out what influenced the individual to act in the way that they did. Once again, an understanding of psychological theories and approaches is essential to make sure that the work completed by the psychologist can be relied on as accurate.

### PSYCHOLOGICAL (CASE) FORMULATION

Psychologists are often asked why an individual committed a crime. This may be as part of the court process to decide if the individual was capable of committing the offence and to help decide their risk of reoffending. They may also be asked similar questions when working with offenders after they have been convicted. Usually, this is to help decide what rehabilitation/treatment would be appropriate or if the individual is safe to be released into the community, if they were given a prison sentence. To be able to answer these questions about a convicted offender, a psychologist needs to produce a **psychological (case) formulation**.

A psychological (case) formulation is a way of making sense of a person's difficulties, by looking at their relationships, biological and social circumstances, life events and how they have interpreted the events that have happened to them. It is almost like getting a personal story of the convicted offender so that a psychologist can understand how it all links to their offending. A formulation draws on all available psychological theories to understand behaviour. Any psychological treatment is based on a formulation, where the treatment aims to support the offender to develop skills in areas in which the formulation shows they need more support. Whenever any new information is gained, it can be helpful to add this to the formulation.

Psychologists will invariably undertake formulations that differ from each other and between offenders. There is no one fixed way of undertaking a formulation but it is typically conducted in two phases: offence analysis and the case formulation itself.

### OFFENCE ANALYSIS

The first phase is known as offence analysis and involves assessing the offender to get a better understanding of their motivation to commit the crime. This is done by finding similar offences committed by different offenders to see if there are any behaviours or issues that are relevant to that offence. Comparing similar offences can uncover patterns or commonalities in criminal behaviour which gives an insight into the motives of an offender. The factors that are seen to be common of an offence are known as **contingencies**. For example, contingencies for theft can be financial difficulties or substance abuse. Drawing conclusions about an offence from its contingencies can be problematic because there are many factors associated with specific offences.

Offence analysis also involves an analysis of **criminogenic factors** associated with the offender and their offence. This is done by interviewing the offender to find out what social and psychological factors contributed to their criminal behaviour. Psychologists need to consider a wide range of criminogenic factors to better understand the triggers and motives for an offence, such as personality traits, mental health issues, past experiences, family background, emotional state and socioeconomic status. Identifying these factors can be useful to assess their risk of reoffending and develop interventions to help offenders develop strategies to break the cycle of offending. An example of criminogenic factors can be seen in Figure 8.1.

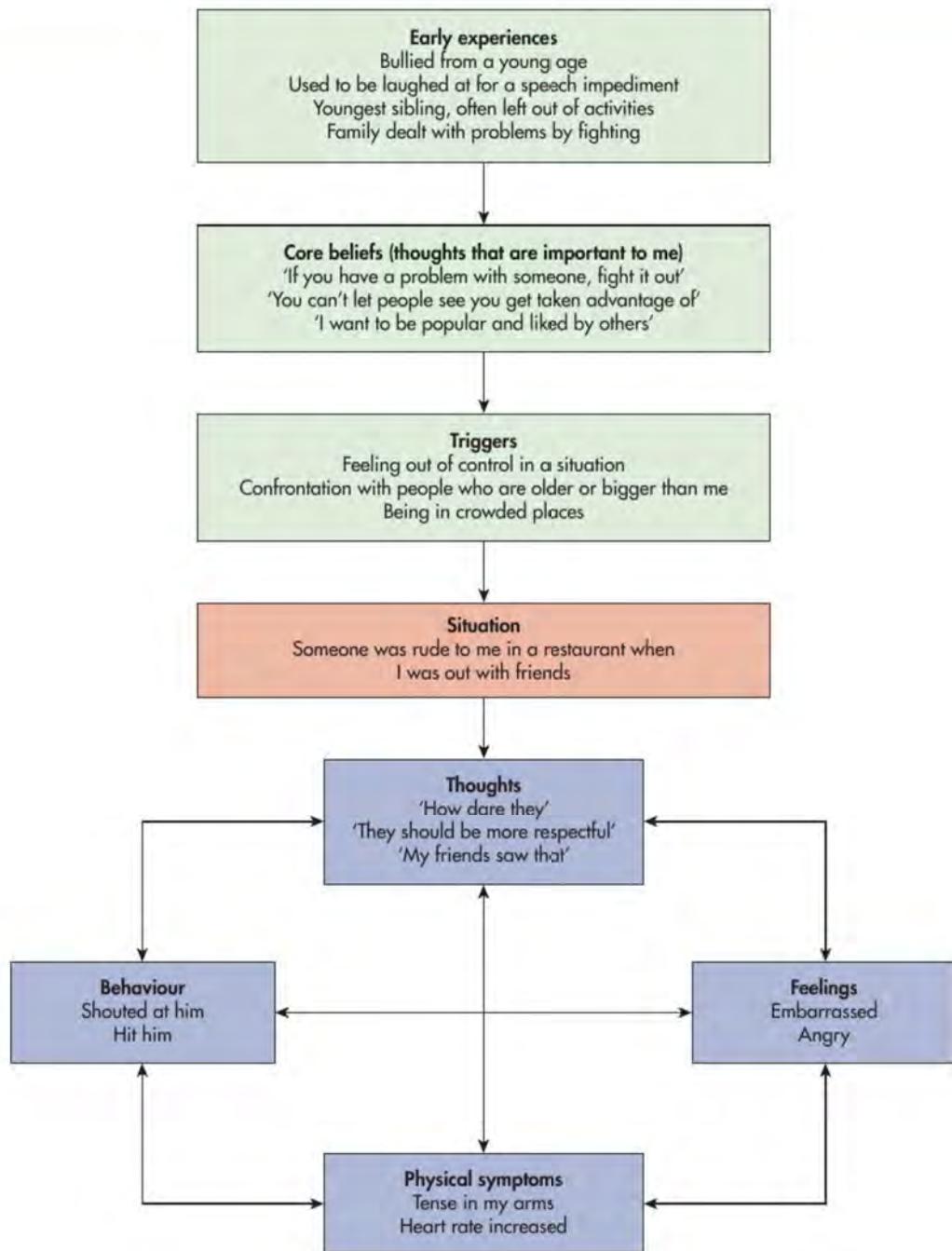
### KEY TERM

**psychological (case) formulation:** an analysis of a convicted offender, by looking at their relationships, biological and social circumstances, life events, and how they have interpreted the events that have happened to them

### KEY TERMS

**contingencies:** common factors associated with a specific offence

**criminogenic factors:** factors associated with the individual that contributed to the criminal behaviour



► Figure 8.1 Criminogenic factors associated with a specific offence

### KEY TERM

**core beliefs:** underlying beliefs that make up the cognitive triad; often developed in early childhood, they affect our conscious processing/interpretation of information; cognitive-behavioural therapy aims to reveal, test and ultimately modify these beliefs

The formulation shows some of the background factors that may have influenced the individual's decision to hit the person in that specific situation. This includes the fact that some of their triggers may have been present in the situation (e.g. a crowded place). They may have felt a little out of control. The size of the person who was rude to them in the restaurant may have also been a factor. Their early experiences suggest that this person has been brought up to use violence to deal with situations, rather than talk about them. The situation may have triggered past memories of being bullied when younger. The individual's **core beliefs**, which are thoughts that drive us all in our behaviour, suggest that it is important to make sure people do not take advantage of them. This is likely to be driven by their past experiences, possibly within the family or due to being bullied. This is someone who believes that violence is a way to resolve situations. All of these thoughts are likely to have influenced the individual's decision to hit the person who was rude to them in front of their friends.

The formulation shows that while the offence itself may seem impulsive, spontaneous or out of the blue, as we start to understand the background of the individual it helps psychologists to see some of the important factors that may have contributed to and influenced the individual choosing to hit the person.

### CASE FORMULATION

Once an offence analysis has been compiled, psychological theory is applied to understand and form a hypothesis about the criminal's motivation. This is presented as a summary to understand the function of offending, going beyond the presentation of factual criminogenic factors. This case formulation can be used to identify any potential risk, the likelihood of reoffending and to recommend possible treatments. Psychological theories that can be used in a case formulation include psychodynamic, cognitive and behavioural approaches. Behavioural theory can be used to understand how criminal behaviour can be maintained through operant conditioning, for example gaining financial reward from theft. Cognitive theories can suggest that an individual may have cognitive distortions that mean they process information in a faulty way, such as minimising the severity of harm they have caused their victim. Early childhood experiences would form the basis of a psychodynamic case formulation. The case formulation can then be used to tailor a management and rehabilitation programme for an offender.

#### LINK

To refresh your understanding of operant conditioning, see Student Book 1, page 233.

#### SKILLS

ANALYSIS, CRITICAL THINKING,  
REASONING

### ACTIVITY 2

Read the following case of a jewellery heist. Identify all of the criminogenic factors you think would be relevant to document in an offence analysis.

Kaia was arrested for the audacious theft of a ten-carat diamond during a party hosted at a prestigious jewellers. Kaia concealed her identity and outsmarted the modern security systems to enter the jewellers just before the party started, when she stole the diamond. She was arrested trying to leave the country with the diamond. A police report revealed that she had a history of financial difficulty, with current debts amounting to several thousand dollars. During an interview she demonstrated anger towards social injustice and unfair distribution of taxes. She believed that for society to be fair there should be an equal distribution of wealth. Kaia claimed that this was the reason for her stealing the diamond. When asked about her upbringing, Kaia reported that she spent her childhood moving from place to place, attending several schools and not really making friends. Her father was arrested and imprisoned for fraud when she was a teenager, so she was raised by her mother and grandmother. She visited her father in prison whenever she could.

Write a brief report documenting the criminogenic factors you have identified and consider which psychological theories you would use to analyse this case.

### EVALUATION OF PSYCHOLOGICAL (CASE) FORMULATION

A psychological formulation is only as good as the information that informs it. One issue is that a lot of information is gathered directly from the offender during interviews. This can involve the offender remembering events from their past, such as the crimes they have committed and their childhood experiences, which relies upon the accuracy of their memory. Retrospective data such as this may be unreliable. Once the information has been gathered it is interpreted and summarised by a psychologist who conducts the case formulation. This interpretation means that some information in the offence analysis will be given more significance than others. It also means that the experience and training of the psychologist may introduce bias as they may interpret the information in a certain way, perhaps preferring to explain criminal behaviour from a particular psychological theory.

**KEY TERM****forensic psychologist:**

a psychologist who specialises in working with offenders. They will apply psychological theory to criminal investigation, understanding psychological problems associated with criminal behaviour and the treatment of those who have committed offences

A strength of psychological formulations is that the process can provide a detailed insight into offending behaviour and its causes. This detail is achieved through gathering information from many different agencies, such as the police, mental health professionals, **forensic psychologists** and probation officers. As such, a psychological formulation is the best way of determining appropriate offender management and rehabilitation to reduce the risk of reoffending.

The aim of a psychological formulation is to minimise risk of reoffending, so looking at reoffending rates can tell us whether or not the formulation has been successful. The problem with this method of establishing the effectiveness of psychological formulations is that it is dependent upon being able to accurately record whether someone has reoffended. Reoffending can go undetected for many reasons, so we can only really look at whether someone has been caught and reconvicted of crime. This makes it difficult to establish the effectiveness of psychological formulations.

Paul Whitehead et al. (2007) documented the case of Mr C, a high-risk, violent, repeat offender. The psychological formulation produced in this case documents how behavioural theories were used to explain learned criminal behaviour. Linking his criminogenic factors to underpinning psychological theory was used to support his rehabilitation and help him create a more coherent sense of self with life goals. Case study evidence such as this can be used to support the use of psychological formations.

Psychological formulations can help professionals to make decisions about the individual's future. Most importantly it is a useful way of explaining to the offender themselves what led them to committing the offence. This can help them to understand how to manage future situations. Undertaking a formulation with a person can be an important first step in supporting them to make changes to their behaviour. It can also improve staff knowledge of offenders, giving them greater confidence in managing offender behaviour and working with them. However, a formulation is conducted at one point in time, typically when an offender is convicted. Circumstances may change which can mean the formulation is no longer relevant.

**CHECKPOINT**

1. Name the four techniques used in the cognitive interview.
2. The cognitive interview was designed from which two cognitive theories?
3. What is one weakness with using the cognitive interview by police in the field?
4. Name one study which found that recall using the cognitive interview was significantly better than using a standard interview.
5. Is a psychological formulation used to catch an offender?
6. Is an offence analysis an objective account of an offender?
7. Are reoffending rates a good measure of the effectiveness of a psychological formulation?
8. Is it true that psychological formulations increase staff knowledge and understanding of an offender?
9. What other uses are there for a psychological formulation?

**SKILLS**ANALYSIS, CRITICAL THINKING,  
REASONING**EXAM PRACTICE**

1. Olivia has recently completed her training as a police officer. She has been asked to conduct a cognitive interview for the first time. She was trained to conduct a cognitive interview during her police officer training programme. She has been asked to interview a witness to a theft from a department store. Rhys was at the department store when the theft took place. He saw a woman running out of the store being chased by a security guard.
  - a) Discuss how Olivia could use cognitive interview techniques to help Rhys recall the incident. (8 marks)
  - b) Explain one strength and one weakness of Olivia using a cognitive interview with Rhys. (4 marks)
2. Darian is a psychologist who works in a local prison. He has been asked to carry out a case formulation on a prisoner who is being considered for release. The prisoner has not been engaging in a treatment programme. Darian asks the prisoner about his childhood when he was neglected by his parents. He also asks about his current relationships, which are unstable. Darian finds out that the prisoner has an addiction and was homeless before going to prison. Explain how Darian may conduct a psychological formulation to understand the function of offending behaviour in the prisoner. (3 marks)

# CHAPTER 9 FACTORS INFLUENCING THE IDENTIFICATION OF OFFENDERS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate post-event information as a factor which influences the reliability of eyewitness testimony
- describe and evaluate stress and trauma as a factor which influences the reliability of eyewitness testimony
- describe and evaluate weapon focus as a factor which influences the reliability of eyewitness testimony
- describe and evaluate the 'other race' effect as a factor which influences the reliability of eyewitness testimony.

## GETTING STARTED

Imagine you are at a loud concert outdoors with a large group of your friends. The concert is being held in a public park and the audience are watching the stage, standing around it on the grass. It starts to become dark in the park but the lights from the stage are bright and colourful, flickering on and off around the park and audience. A fight breaks out in the audience and many people are seen crowding around. Someone gets hurt and security guards rush over, causing panic in the crowd. They stretcher the victim, who looks to have been badly hurt, away from the crowd, and begin asking members of the audience what they saw. A security guard approaches your group of friends and asks what you have seen. The concert is still playing loudly and it is difficult to hear what your friends are saying, but you are all scared and worried that another fight might break out.

In pairs, identify factors from this scenario which might affect whether you are able to remember the events of the incident.

## FACTORS INFLUENCING THE RELIABILITY OF EYEWITNESS TESTIMONY

Eyewitnesses are those individuals who see an event such as a crime occurring. The police usually interview an eyewitness and document everything that the person remembers. An eyewitness is likely to be required to attend court so that they can recount the event to the judge and jury. The eyewitness is often the most common form of evidence in many criminal trials, and their testimony is often trusted by jurors to be reliable. Unfortunately our memories are not as accurate as we might want or expect them to be, and can be affected by a number of different factors, all of which influence how reliable we are in court. Unfortunately, incorrect eyewitness accounts have been identified as the leading cause for the miscarriage of justice.

### LINK

Jury decision-making is discussed on pages 125–128.

The reliability of eyewitnesses has been questioned by many studies



## POST-EVENT INFORMATION

Post-event information is any information after the witnessed event which may influence the original memory of the incident. Post-event information can introduce new information that may be incorporated into the memory or can alter the original memory of the incident. Post-event information can also activate schemas expectations about an event, which can alter recall of the incident. Often witnesses are interviewed over a period of time after the offence, and it can take a long time before a case goes to court. The experiences of the witness during this time period can affect how the original incident is remembered later. Post-event information can include talking to other witnesses or lawyers, being questioned by the police or watching media coverage of the incident, particularly if the case is high profile.



Post-event information such as watching the news on television can be incorporated into the memory

### SKILLS

COMMUNICATION, INTELLECTUAL  
CURIOSITY

## ACTIVITY 1

You can test the influence of post-event information in a small group to see whether leading questions can influence whether participants recall a photograph accurately or whether they are influenced by the leading question.

Find a photograph of a person and show it to a group of other students for a brief moment. Split the group in two. Ask one half a leading question, such as 'How tall was the person?' or 'Did they have dark hair?' Ask the other half non-leading questions, such as 'Estimate the height of the person' or 'Describe their hair colour'.

Compare the responses from both groups to see if their recall was influenced by post-event information. You might find that the leading question meant that they recalled the person in the photograph as taller than those asked to estimate their height, or that they recall the person in the photograph as having darker hair than those asked to just describe their hair colour.

**LINK**

To refresh your knowledge of reconstructive memory, encoding and schemas, see Student Book 1, page 96.

Reconstructive memory occurs when we attempt to make sense of what we have seen and are influenced by our interpretation of the situation, as well as our own cultural norms and expectations. We do not recall information in exactly the same form as it was encoded. Instead, there is the tendency to recall the main points or underlying meaning in a way that makes most sense to the individual. Information presented to witnesses after the event can influence a person's schema about what they think happened within the event, particularly if the event was unusual or outside their normal experience, making for less accurate testimony.

Leading questions are a source of post-event information which can alter witness memory. Leading questions may come from a number of sources, including the police at interview and from legal officials within a trial setting. They may be used unintentionally while trying to gain information or may be used at court by solicitors who are attempting to confuse witnesses in order to get their client, the defendant, a verdict of 'not guilty' from the courts.

**THINKING LIKE A PSYCHOLOGIST**

The cognitive interview is designed to reduce post-event information contaminating eyewitness memory. The cognitive interview uses open and non-leading questions. This is an important police procedure, not only to get accurate witness testimony, but also to ensure that the use of leading questions is not detected by the defence lawyers. If a legal defence team can prove that leading questions were used with a witness, they can claim that their testimony is inadmissible in court. If memory contamination is not detected, it can result in false testimony being used to convict a suspect. Unfortunately this has been found to be true in many legal cases, often resulting in false convictions. A project to prevent false convictions has been set up to campaign for equitable justice. The 'innocence project' aims to prevent wrongful convictions from occurring. You can find out more online about the 'innocence project' and the cases they have been involved in. Investigate some of these cases and find out how many miscarriages of justice occurred due to unreliable eyewitness testimony.

**EVALUATION OF POST-EVENT INFORMATION AS A FACTOR INFLUENCING THE RELIABILITY OF EYEWITNESS TESTIMONY**

Elizabeth Loftus has pioneered research into eyewitness testimony since the 1970s. She has been particularly influential in her research into the 'misinformation effect'. This effect occurs when a memory becomes less accurate because of exposure to post-event information. This research can be used as evidence to support the argument that post-event information influences eyewitness reliability.

**LINK**

You will learn about the research of Elizabeth Loftus with her colleague John Palmer (1974) on page 145.

**WIDER ISSUES AND DEBATES****Ethical issues**

There can be ethical issues when investigating eyewitness memory, particularly when exposing participants to a traumatic event or using film footage of an incident that may cause distress. Using real witnesses to a crime can also raise ethical issues as questioning them forces them to relive the incident which may cause distress.

Post-event information can arise when witnesses discuss an incident before they are interviewed by the police. These discussions can result in a memory conformity effect, where witness memories of the event become similar to one another because of the discussion. Fiona Gabbert, Amina Memon and Kevin Allen (2003) investigated memory conformity effect testing 120 students who witnessed a crime on video. Participants were placed in pairs and shown a video of a girl returning a book to a university office. However, each pair saw a slightly different version of the video. One of the pair could see the book being returned, while the other could see the girl stealing it. Participants in one condition recalled the video without discussion, while participants in a different condition discussed what they witnessed before the recall test. The result was that 71 per cent of the witnesses who discussed the event recalled items that were not on the video but acquired through the discussion. They also found that 60 per cent of participants who discussed the event thought that the girl was guilty of stealing even though they had not been exposed to that version of the video. This suggests that post-event information in the form of discussion with other witnesses can influence witness memory.

Most studies of post-event information have focused on adults. A number of studies conducted with children have shown that leading questions can also influence their account of an event. Debra Poole and Stephen Lindsay (1995) investigated the accuracy of recall of children aged three to four years and five to seven years following an interaction with a character called Mr Science who demonstrated a science activity. Initially children were interviewed without being exposed to misinformation, and were generally accurate in their recall. Three months later the children were read a story about Mr Science by their parents. The story contained two science activities which the children had experienced and two activities that they had not experienced. In a second interview the children were asked misleading questions about the science demonstration and questions about which activity they really saw. At this point, 95 per cent of children responded incorrectly to at least one leading question on an activity that they had not experienced. They were also unable to distinguish between the science activity that they experienced and those read to them in the story. This demonstrates that children are highly suggestible when presented with post-event information in the form of leading questions.

However, the findings of John Yuille and Judith Cutshall (1986) suggest that leading questions have limited effect on accuracy within real-life eyewitness accounts. Yuille and Cutshall's (1986) research was based on a case study of a real shop robbery and subsequent incident involving a weapon in Canada. Real witnesses to the shooting were interviewed about the incident and this was compared to police records of other testimony. The researchers found that the witnesses had detailed memories of the event and were not misled by the researchers' two leading questions about whether they had seen 'a busted headlight' or 'the busted headlight', and about the presence of a 'yellow quarter panel' (it was actually blue). This suggests that post-event information may not contaminate memory for real-life events.

Furthermore, Geralda Odinot (2008) interviewed witnesses to a supermarket robbery in the Netherlands three months after the incident. Two armed robbers entered the supermarket just as it had closed. There were 28 employees in the store as the men robbed the safe. Comparing their testimony to the CCTV footage in the store, they found that 84 per cent of all remembered information was accurate. Many of the witnesses had viewed a televised reconstruction five weeks after the robbery which contained inaccurate information about the incident. One inaccuracy concerned the location of the safe, and another depicted the cashier inside an office sitting on her heels, when in fact she was outside the office standing with her back against a wall. Despite exposure to misleading information from the reconstruction, it did not alter the memory of the employees.

**SKILLS**CONTINUOUS LEARNING,  
SELF-INITIATIVE**ACTIVITY 2**

There is a lot of research demonstrating how post-event information can influence eyewitness testimony. To help you revise, write a brief summary of their findings by copying and completing the table here.

<b>Factor</b>	<b>Study</b>	<b>Findings</b>
Post-event information	Loftus and Palmer (1974)	
	Gabbert, Memon and Allen (2003)	
	Poole and Lindsay (1995)	
	Yuille and Cutshall (1986)	
	Odinot (2008)	

Field studies such as these are useful in understanding the impact of post-event information on real eyewitness recall. However, Yuille and Cutshall only used a small sample of witnesses, and it is likely that Odinot's witnesses reconciled any errors in the televised reconstruction during discussions at work.

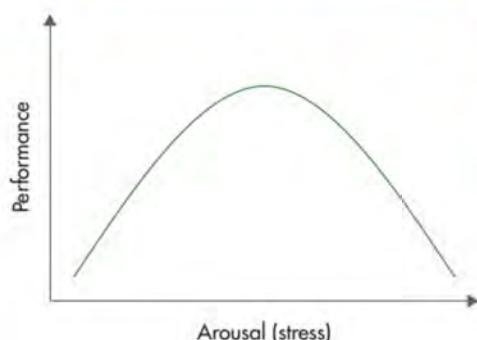
**WIDER ISSUES AND DEBATES****Psychology as a science**

The use of laboratory investigation as a measure of eyewitness testimony yields different results from those undertaken with the witnesses of real-life crimes. This suggests that caution should be applied in considering only the findings of laboratory studies in this area. Laboratory experiments arguably minimise the emotional stress placed on a participant as they are aware the crime is not real, though it can still be distressing for some to witness crime images.

Laboratory experiments for this type of research have a number of limitations. They are unlikely to create the same emotional reactions in someone watching a film of a crime than if the witnesses were experiencing the crime for themselves. This may also make the participants less invested in trying to remember as much information as possible, as they know it was not a real crime. Laboratory experiments have the advantage of being highly controlled settings. For eyewitness testimony research, this level of control creates an artificial environment, and the absence of extraneous variables that would typically be found in a real crime setting, such as noises, the reactions of other people, etc., reduces the ecological validity of the findings from laboratory settings.

**THINKING LIKE A PSYCHOLOGIST**

Elizabeth Loftus has also conducted research into how misleading information can be used to implant false memories and reshape people's food preferences towards more healthy eating. Consider how you would plan an investigation into whether misinformation could be used to change people's food preferences towards more healthy foods. Design your investigation to include the sample, apparatus, procedure and controls. Also consider the ethical implications of your research and whether the research could be considered socially sensitive.



▲ Figure 9.1 Diagram to show Yerkes–Dodson Law

## STRESS AND TRAUMA AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY

Eyewitnesses are placed under great emotional stress when witnessing an event, however serious it is. Research has suggested that our performance, for example remembering information, is impaired as we get too aroused/stressed. This is known as the Yerkes–Dodson Law (1908), as shown in Figure 9.1. As we become stressed about a situation or event, our performance in that situation will eventually decline. There is an optimum amount of arousal we need to be successful but it is very easy to go beyond this. Being too relaxed in a situation will also not help our performance. If a witness experiences a very stressful event, their arousal levels will increase and their recall of the incident may be impaired.

Stress can impair the encoding and storage of a memory for a witnessed event. When individuals are stressed, they may narrow their focus of attention and not encode other details about the event. The Easterbrook hypothesis (1959) explains that attentional narrowing occurs in the context of high emotional arousal. This is particularly true if a weapon is present, as the witness will pay more attention to the weapon and not encode peripheral information. A witness may subjectively experience a vivid memory of a crime but stress actually impairs their ability to remember. This failure to attend to and encode information may lead to important information being missed.

Additionally, experiencing a traumatic event, such as a particularly violent crime, can lead to memory impairment through source monitoring problems. Traumatic events are likely to be rehearsed through statements made to the police, watching media coverage of the event and talking to friends and family. People who undergo a traumatic event may confuse information encoded after the event with what really happened. They fail to distinguish the source of the information. This means that traumatic memories are more prone to memory distortion. Hans Crombag et al. (1996) made 60 per cent of participants believe that they had viewed the crashing of the El Al Boeing 747 on apartment buildings in Amsterdam on television, when no such television footage existed. This demonstrates that memories for traumatic events can be prone to post-event information.

### WIDER ISSUES AND DEBATES

#### Practical issues in the design and implementation of research

The laboratory studies included in this section are discussed in relation to their validity in measuring the true arousal of a real eyewitness. The Yerkes–Dodson curve shows that students undertaking research in a laboratory may not reach the 'critical level' of optimum performance (that is, recall of an event). This is because they know what they are seeing is not real. Similarly, due to the experiment being artificial, they are also unlikely to experience high amounts of stress that may affect their recall, therefore being 'under-aroused' in the experiment.

## EVALUATION OF STRESS AND TRAUMA AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY

A classic study into arousal and recall was Tim Valentine and Jan Mesout's (2009) London Dungeon study. They found that eyewitness identification was impaired by arousal. This was undertaken with real eyewitnesses to an event, as participants did not know they would be expected to recall what they saw after visiting the museum.

Charles Morgan III et al. (2004) conducted research on acute stress and memory, testing 509 people undertaking a survival training exercise. During the training exercise, participants either

### LINK

You can read about Valentine and Mesout's study on page 159.

experienced low stress interrogation or high stress interrogation for more than 30 minutes. Later they were asked to identify their interrogator in either a line up or photo identification. Irrespective of the method of identification, a large number of participants involved in high stress interrogation were unable to make a correct identification. In a later investigation (Morgan III et al., 2007) 53 personnel were exposed to acute interrogation stress during a mock captivity exercise. They found that 1 in 3 participants incorrectly identified their interrogator 48 hours after the exercise. This research suggests that facial recognition is impaired by stress and trauma.

Although experimental research seems to suggest that stress can have a negative impact on eyewitness recall, memory research for real-life events seems to contradict this. Yuille and Cutshall's investigation of witness recall of a shop robbery in Canada found that witnesses reporting high stress during the incident recalled with greater accuracy than those who reported less stress. However, those who reported the highest stress were the closest to the incident, which may account for their greater accuracy.

James Thompson et al. (1997) examined the accounts of 27 survivors of the *Marchioness* ferry sinking, a highly traumatic event. They found that 74 out of 86 statements given were confirmed as accurate. Furthermore, Todd Riniolo et al. (2003) evaluated the accuracy of witness statements from survivors of the *Titanic* sinking and found that 15 out of 20 eyewitnesses reported that the ship was breaking apart while on the surface of the water. This is consistent with forensic evidence for the sinking.

A meta-analysis conducted by Kenneth Deffenbacher et al. (2004) suggests that, taken as a whole body of research, stress has more of a negative impact on eyewitness recall than a positive one. This remains true for both eyewitness identification of the perpetrator and for recall of event details. The inconsistent outcomes of laboratory and real-life studies addressing the impact of arousal on eyewitnesses are limited by methods used to elicit arousal. For example, arousal could result from anxiety or fear (as might be experienced by eyewitnesses) or simply an increased state of alertness or attention (as under laboratory conditions). This confusion in the use of the term 'arousal' makes comparison between studies complex.

## SKILLS

### CONTINUOUS LEARNING, ANALYSIS

## ACTIVITY 3

To consolidate your familiarity with the research into stress and trauma, identify which study goes with each description of their findings.

1. Valentine and Mesout (2009)	a) Overall, stress impairs eyewitness recall of event details and identification
2. Morgan III et al. (2004)	b) 74 out of 86 statements given by survivors of the <i>Marchioness</i> ferry sinking were accurate
3. Morgan III et al. (2007)	c) 15 out of 20 survivors of the <i>Titanic</i> sinking recalled accurately
4. Thompson et al. (1997)	d) High arousal experienced in the London Dungeons led to poor identification
5. Riniolo et al. (2003)	e) High stress interrogation impaired identification
6. Deffenbacher et al. (2004)	f) 1 in 3 personnel could not identify their interrogator after acute stress interrogation

## WEAPON FOCUS AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY

### KEY TERM

**weapon focus:** refers to an eyewitness's concentration on a weapon to the exclusion of other details of a crime

One specific factor that has been proven to affect recall of an event, and therefore eyewitness accuracy, is whether there is a weapon used within the offence they witness. There are two possible explanations for the effect of **weapon focus** on eyewitness recall. These include the influence of stress experienced within the situation and the attention paid to the weapon.

The Yerkes–Dodson law is applicable to any crime situation, including those in which weapons are present. The high level of stress and arousal experienced by the eyewitness because of the presence of a weapon may have some influence on the amount of information they encode about the crime, and therefore the amount of information they are able to recall. This suggests that a weapon causes stress which influences witness memory.

A different explanation suggests that when there is a weapon present, the witness may focus their attention on the weapon and not on other details within the situation. This narrowing of attention may result in other important details being missed and therefore not recalled. Rather than a source of stress on memory, it is a focus of attention on the object that diminishes the capacity of a witness to encode other information.

### EVALUATION OF WEAPON FOCUS AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY

Elizabeth Loftus et al. (1987) suggest that weapon focus occurs because the presence of a weapon focuses attention away from the less dramatic visual images, such as the image of the perpetrator. They showed 36 participants a series of slides of a customer in a restaurant. In one version, the customer was armed with a weapon; in the other, the same customer held a chequebook. The eye movements of participants were recorded. Participants who saw the weapon version tended to focus their gaze on the weapon. As a result, they were less likely to identify the customer in an identity parade (11 per cent) than those who had seen the chequebook version (39 per cent), and had a worse memory for the event than those who witnessed the cheque book. However, laboratory research such as this does not emulate the same experience as it would in real life. Witnessing a slide containing a weapon would not be the same as being in the restaurant and seeing a weapon.

In a field study to investigate weapon focus by Anne Maass and Günther Köhnken (1989), 86 students were approached by a woman holding a pen or a syringe. When asked to identify the woman from a line up, two-thirds of participants in the syringe condition made an incorrect identification. This supports the influence of the weapon effect in a real-life situation.

Kerri Pickel (1998) investigated weapon focus within the context of a hairdresser's salon and used a video consisting of a scene from a hair salon. A man walks up to the receptionist and she hands him some money. In the different conditions, the man holds a different item in his hand. These are:

- nothing (control situation)
- scissors (high threat, low unusualness)
- weapon (high threat, high unusualness)
- wallet (low threat, low unusualness)
- raw chicken (low threat, high unusualness).

Participants then completed a 10-minute filler exercise before completing a questionnaire asking them to recall details of what they saw, including the receptionist, the man, what he was doing in the salon and what he had in his hand. She found that the presence of either a weapon or the raw chicken resulted in the poorest recall of the man, while the wallet and scissors had less effect in comparison. This could be interpreted as both high unusualness and high threat

items producing low recall. However, the weapon and scissors are both high threat items, yet scissors did not affect recall of the man because it would be expected in a hair salon. This suggests that threat alone cannot result in poor memory. Pickel argued that it is the unusualness of an object that draws our attention, in this case, the presence of a weapon, therefore assisting our recall of it, rather than the threat associated with it.

Pickel et al. (2006) published another simulation study, this time investigating whether awareness of the weapon-focus effect could diminish its effect. Participants were seated in a small classroom and informed that they were about to observe a short scene portrayed by actors. However, participants were first provided with one of two brief lectures: (a) a lecture regarding weapon focus, and how important it is to attend to perpetrator features instead of dwelling on any weapons they may carry, or (b) a lecture regarding eyewitness confidence and perceived credibility. In either case, a man interrupted the lecture by bursting into the classroom bearing a neutral object (a book) or a weapon. The main finding was that participants presented with the lecture on eyewitness confidence (lecture b) produced fewer correct details (and more incorrect details) related to the perpetrator in the weapon condition than in the neutral object condition. However, object type had no effect on those presented with the weapon focus lecture (a). Pickel concluded that with proper instruction, the weapon-focus effect could be overcome.

### **WIDER ISSUES AND DEBATES**

#### **The use of psychological knowledge in society**

The findings of Pickel's various studies suggest that we should carefully consider the reliability of an eyewitness in court, if the crime involved a weapon. Recent studies suggest that it may be possible to overcome the effect of weapon focus, which may increase the reliability of testimony. It has particular application to police officers, who are more likely to experience such situations in their working roles. If officers can be trained in the area of weapon focus, it is possible that this will improve their recall of events when a weapon was present within a crime.

In an attempt to overcome the fact that most weapon-focus research was simulated in a laboratory, Graham Wagstaff et al. (2003) adopted a different approach by investigating information obtained about real-life events after they had occurred. They coded police interviews taken from witnesses or victims of robberies and assaults investigated by two separate police forces in Britain. These interviews were compared against a police description of the primary suspect at the time of their arrest. They found no evidence of any effect of weapon presence on feature accuracy, therefore not supporting the weapon-focus effect.

Yuille and Cutshall's investigation into witness recall of a real shop robbery suggests that the presence of a weapon did not affect accuracy of recall, even for witnesses close to the incident involving a weapon in the street.

Jonathan Fawcett et al. (2013) undertook a meta-analysis to identify what it is that causes our memories to be influenced when a weapon is present, in an attempt to clarify the various findings. They concluded that weapon presence consistently demonstrated a negative effect on both feature accuracy and identification accuracy under controlled conditions as well as within real-life situations. Factors that complicate real-world research include how long the witness was exposed to the weapon, which is easily controlled within laboratory settings.

**EXAM TIP**

If you are using a number of studies to evaluate a topic, such as weapon focus, it is not always necessary to spend a long time describing in lots of detail all stages of each study, unless specifically asked for in the question. Instead, the emphasis of your written work is likely to be on showing your understanding of the studies and using that to evaluate if the studies support the topic or not.

**SKILLS**

CONTINUOUS LEARNING,  
REASONING, ANALYSIS

**ACTIVITY 4**

To practise evaluating a study in relation to a topic, copy and complete the following table. Use the findings from the research listed here to justify whether weapon focus has an effect on eyewitness reliability.

Study	Justify whether weapon focus influences eyewitness memory
Loftus et al. (1987)	
Maass and Köhnken (1989)	
Pickel (1998)	
Pickel et al. (2006)	
Wagstaff et al. (2003)	
Yuille and Cutshall (1986)	
Fawcett et al. (2013)	

**'OTHER RACE' EFFECT AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY**

The 'other race' effect, often referred to as 'cross-race' effect, is when same-race faces are more accurately recognised than someone of a different race. The difficulty in being able to recognise other-race faces compared to own-race faces is one of the most researched issues in criminological research concerning eyewitness identification. Given that eyewitness identification is a significant factor in criminal trials, understanding the impact of the other-race effect is important. Since the advent of DNA testing it has been revealed that many people have been convicted of crimes that they did not commit based on false eyewitness identification. One notable miscarriage of justice was the conviction of Ronald Cotton in 1985. In 1984 a white woman, Ms Jennifer Thompson, was assaulted by a man who gained entry to her apartment. Despite considerable effort to remember the face of the Black assailant, she misidentified Ronald. Ronald was convicted of assault and spent more than ten years in prison before being exonerated because of later DNA evidence.

Barry Scheck, Peter Neufeld and Jim Dwyer (2000) looked at 77 mistaken eyewitness identifications. They found that 35 per cent were white victim witnesses misidentifying Black suspects, suggesting that the other-race effect influences eye-witness reliability.

The other-race effect may occur because we have greater confidence in recognising same-race faces. Smith et al. (2004) showed 161 white participants, who attended a Canadian university, video footage of a staged theft where the thief was either white or Black. The white participants were asked to identify the thief from a line up and rate confidence in their ability to recognise the offender. They found that the white participants were more accurately able to identify the white thief, and that their confidence in being able to identify the offender was higher when the thief was white.

**KEY TERMS**

**in-group:** a group to which we have membership

**out-group:** a group to which we do not have membership

There are several theories put forward to try to explain this. One theory by Tim Valentine (1991) suggests that we have experience based encoding differences, that is, we learn to encode faces by paying attention to features that we can use to discriminate between faces of our own race. We are experienced at discriminating between own-race facial features, but not other-race facial features. However, this theory would fail to explain why the cross-race effect occurs even when individuals have high exposure to other-race faces.

Other explanations for the cross-race effect focus on social-cognitive theories. These theories suggest that we quickly group individuals as **in-group** or **out-group** members. In-group member faces are visually processed in order to discriminate them as individuals within the in-group, whereas out-group faces are only processed as a way to categorise them as an out-group member. These theories would predict that we encode own-race faces qualitatively better than other-face faces.

### EVALUATION OF 'OTHER RACE' EFFECT AS A FACTOR WHICH INFLUENCES THE RELIABILITY OF EYEWITNESS TESTIMONY

John Brigham et al. (1982) conducted a field study asking cashiers working at a convenience store, of whom 64 were white and 9 were Black to identify from a photograph line up either a Black male customer or a white male customer who had been at the store two hours earlier. They found only a small own-race effect in recognition accuracy for the white cashiers. Interestingly, they found that the white cashiers' ability to recognise the Black customer was related to self-reported cross-racial experiences. This supports the theory that experience of other races influences the ability to recognise them. In a replication of this field study Stephanie Platz and Harmon Hosch (1988) found that the other-race effect extended to the identification of Hispanic customers.

Kathleen Hourihane et al. (2012) tested the cross-race effect on 102 white ( $n=50$ ) and Asian ( $n=52$ ) participants. Each participant was individually presented with a series of photographs of white and East Asian faces and asked to rate how likely they would be to remember the face later. They were then asked to recognise the faces that they had seen in a recognition test which included the same and different faces. They found that white participants were superior at recognising white faces and East Asian participants superior at recognising East Asian faces; although East Asian participants showed greater ability than white participants at recognising different faces. The researchers suggested that this may be due to media exposure, as American shows are aired in China, but few Chinese shows aired in America. Their pre-ratings of how likely they were to be able to recognise the faces also predicted their accuracy. This suggests that experience of other-race faces can influence accuracy.

Hancock and Rhodes (2008) found that higher levels of contact with other-race groups, such as living in an other-race country, was associated with an increase in other-race facial recognition. This suggests that exposure to different races can reduce the other-race effect. Similarly, Sandy Sangrigoli et al. (2005) compared facial recognition by adult Koreans who were adopted by European white families at a young age to those who remained in Korea, and to white adults. They found that both white adults and adopted Koreans were better at identifying white faces, and that non-adopted Koreans were better at identifying East Asian faces. They concluded that early childhood exposure to other faces can reduce own-race bias.

In a meta-analysis conducted by Christian Meissner and John Brigham (2001) 39 cross-race facial identification research articles were analysed from three decades of research. They found that own-race faces were 1.40 times more likely to be correctly identified and 1.56 times less likely to be falsely identified than other-race faces.

The cross-race effect has been extensively researched but there may be a lack of ecological validity in these findings. Much of the research into the cross-race effect is conducted in laboratory settings using isolated photographs of faces. This research does not involve real witnesses to real crimes, so such evidence may tell us little about how the other-race effect influences real eyewitness testimony.

**SKILLS**

CONTINUOUS LEARNING, SELF-REINFORCEMENT

**ACTIVITY 5**

There is a lot of research into other-race effect as an influence on eyewitness reliability. To help you revise, write a brief summary of their findings by copying and completing this table.

Study	Findings
Scheck, Neufeld and Dwyer (2000)	
Brigham et al. (1982)	
Hcurihan et al. (2012)	
Hancock and Rhodes (2008)	
Sangrigoli et al. (2005)	
Meissner and Brigham (2001)	

**CHECKPOINT**

1. When does the 'other race effect' occur?
2. How does the 'other race effect' impact eyewitness reliability?
3. Describe two reasons why the 'other race effect' may occur.
4. Name one study which shows the 'other race effect' affecting eyewitness recall.
5. Which factor that affects eyewitness testimony occurs after the event has been witnessed?
6. What interviewing technique is used by police to reduce the likelihood of post-event information contaminating memory?
7. How does the presence of a weapon affect eyewitness memory?
8. How does stress impair memory?
9. Describe one study that demonstrates how stressful events impair memory performance.

**SKILLS**ANALYSIS, CRITICAL THINKING,  
REASONING**EXAM PRACTICE**

1. In your studies of criminological psychology, you will have learned about factors influencing the reliability of eyewitness memory. Describe how stress may influence the reliability of eyewitness memory. (2 marks)
2. State what is meant by the term 'weapon focus' as a factor that influences eyewitness memory. (1 mark)
3. Define 'post-event information' as a factor that influences eyewitness memory. (1 mark)
4. Explain one reason why weapon focus may influence eyewitness memory. (2 marks)
5. Explain one ethical issue that should be considered when researching factors that influence eyewitness memory. (2 marks)
6. Evaluate the reliability of eyewitness testimony. (8 marks)

# CHAPTER 10 FACTORS AFFECTING JURY DECISION-MAKING

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

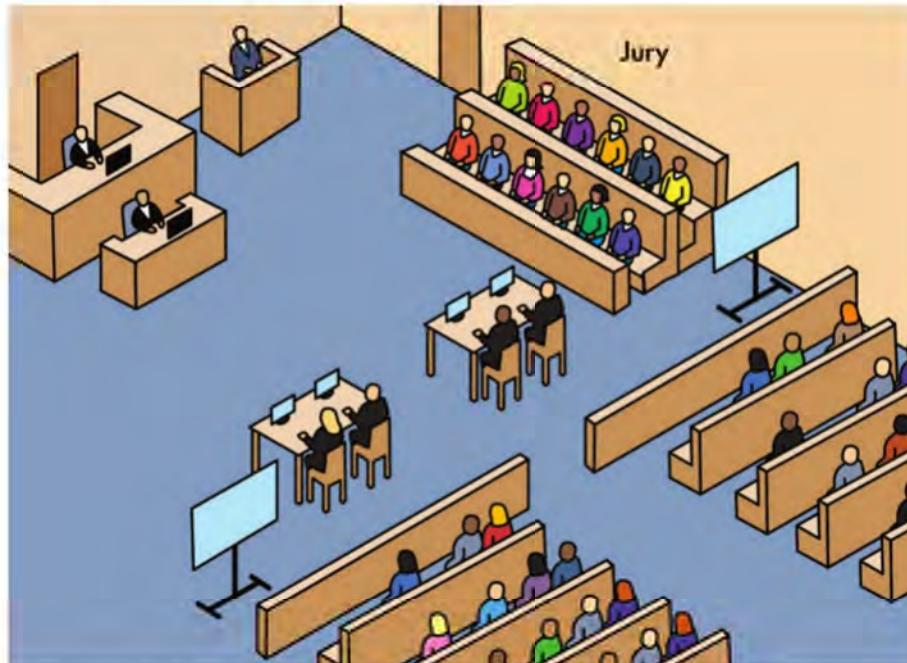
- describe and evaluate characteristics of the defendant, including attractiveness and race, as factors which affect jury decision-making
- describe and evaluate pre-trial publicity as a factor which affects jury decision-making
- describe and evaluate research into expert testimony including Penrod and Cutler (1989) 'eyewitness expert testimony and jury decision-making'.

## GETTING STARTED

In pairs, make a list of everything that you know about a criminal trial and being a juror in your country.

Consider the following questions:

- How old do you have to be in order to get called for jury service?
- Is jury service compulsory?
- What criminal cases are judged by a jury?
- Are jury members allowed to discuss the case with others during the trial?
- Are you paid to do jury service?
- How long will a jury be expected to serve?
- What would a juror typically experience during a trial in the courtroom?



► Figure 10.1 The main role of the jury is to decide, as a group, whether they believe the defendant is guilty of the crime they have been charged with or not.

If an individual is accused of a serious offence they will be summoned to court to receive a trial by jury (see Figure 10.1). Typically a jury consists of 12 jurors who have been selected randomly from an electoral roll or similar list of people who live in the area. There are strict rules that jurors have to follow during a trial to make sure that the case is kept confidential, such as not discussing the case with others, and they should avoid media coverage of the case. This protects the jury members from any influences on their judgement other than the evidence that is presented in the court. This is to make sure that the decisions the jury make are based solely on the facts of the case as told to them in court. The main role of jury members will be

to decide, as a group, if they believe the defendant is guilty of the crime they have been charged with or not. A judge cannot decide if someone is guilty nor can they tell the jury what to decide, so the judge relies entirely on the jury. This makes the role of the jury very important.

During the trial, jurors will be seated together in the jury box to ensure they have a clear view of the court proceedings. They will listen to the evidence presented by the prosecution and defence lawyers, witness testimony and the defendant's statement. They may also hear expert witness testimony if it is felt that an expert is needed to be used in court to clarify complex issues. At the end of the trial the judge will instruct the jury on aspects of the trial and then the jury will leave the court room to deliberate. This is called the 'deliberation' stage where the jury can review the evidence and discuss the case together to reach a verdict of guilty or not guilty. Their deliberations are completely confidential; no-one can enter the deliberation room and it cannot be recorded. Typically, a foreperson is appointed who will present the decision of the jury back to the judge.

Jury decision-making has been researched extensively because at various points in the jury decision-making process there are psychological factors which may influence decision-making. If jurors are influenced by these factors over the evidence presented in court they may come to a wrong verdict. In this chapter we will look at some of the factors which may influence jury decision-making.

### CHARACTERISTICS OF THE DEFENDANT AFFECTING JURY DECISION-MAKING

During a trial, jurors will be able to see and hear the defendant accused of committing the crime they are charged with. Defendant characteristics, such as race, gender, attractiveness and accent can bias the jury based on stereotypes that the jury members may hold towards individuals with certain characteristics.

The stereotypes we hold can influence how we see and categorise individuals, and can affect our views towards these people. Our stereotypes can be influenced by how they sound, what they look like or how they behave. This can in turn change how we would view these individuals if they were a defendant in a trial situation.



Each member of a jury will have their own prejudices and these can bias their decisions ►

## RACE AS A CHARACTERISTIC OF THE DEFENDANT

The race of the defendant can influence jurors who may stereotypically think that minority ethnic groups or certain marginalised groups are more likely to be involved in crime or prone to certain types of criminal activity. Explicit racial prejudice can also influence jury decision-making, as jurors holding racist views may be more inclined to view a certain race as guilty regardless of the evidence presented in court. Most juries are composed of different races because they are randomly selected. However, while juries can consist of more than one race, it can be an issue if the defendant is of a different race than the majority of the jurors. It can also be an issue in countries that use the process of juror selection, known as 'voir dire', where lawyers can question the suitability of jury members. Selecting jurors on their race is not directly permitted, however lawyers can indirectly consider factors related to race, such as questioning potential jurors about their racial biases.

We know that race is a significant influence on jury decision-making. Human Rights Watch (2000), a global organisation which campaigns for justice for all, reported that minorities are disproportionately imprisoned in America. This is also true of other countries where more marginalised castes and tribal groups represent a greater proportion of the prison population relative to their population size. This demonstrates that people are treated differently in the justice system because of their race.

### KEY TERM

**mock jury:** a study involving participants experiencing a trial using a video or transcript, upon which the participant comes to a verdict about the defendant on trial

Because it is not permissible to study real juries making their decisions, researchers tend to set up a **mock jury** of participants who read about or watch footage of a trial. In countries where a jury is used, research regarding race has focused on the relationship between white jurors and Black or white defendants. Much research into race and jury decision-making has been conducted in Europe, the USA, Canada, Australia and the UK. One common finding has been that white jurors in mock trials demonstrate negative bias to Black defendants during sentence decisions, giving them harsher sentences when compared to white defendants. A similar racial bias has been shown during verdict decisions, with more Black defendants being found guilty than white defendants.

## EVALUATION OF RACE AS A DEFENDANT CHARACTERISTIC AFFECTING JURY DECISION-MAKING

Mark Bradbury and Marian Williams' 2013 study found that Black defendants across several states in the USA are less likely to be convicted by juries composed of a higher proportion of Black jurors and are more likely to be convicted by juries composed of a higher proportion of white and Hispanic jurors.

However, Paul Skolnick and Jerry Shaw (1997), conducted a mock jury study on students at California State University to investigate factors in a real trial which led to a celebrity being acquitted. Black and white jurors read about the murder trial that described either a Black or a white defendant with high or low celebrity status. The study found that Black jurors judged the Black defendant more favourably and gave more lenient sentences. White jurors did not differentiate between either defendant. They found that celebrity status did not influence decision-making, so race was the main factor. They summarised that a Black defendant always received fewer guilty verdicts, irrespective of the race of the jury. This was speculated to be due to the white jury members being fearful of being accused as racist.

David Abwender and Kenyatta Hough undertook mock jury research in 2001 on 207 participants recruited from education programmes across the USA. The mock trials involved Black, white and Hispanic defendants. The study investigated both race and attractiveness. Black participants showed leniency to defendants of their own race, whereas Hispanics showed the opposite. White participants did not show any ethnic bias. This suggests that racial bias has a more complicated effect on jury decision-making than first assumed; any such bias may not be consistent among racial groups.

To understand why there are inconsistent findings in psychological research, it is useful to look at meta-analyses which summarise research from a number of studies in on race. One meta-analysis was conducted by Tara Mitchell et al. (2005) which included an analysis of 46 data samples drawn from 34 studies of racial bias on jury decision-making. They found a small but significant effect of racial bias showing that participants involved in these studies were more likely to come to a guilty verdict when the defendant was of a different race to themselves than when the defendant was of the same race. Their analysis of the research suggested that there were other factors which influenced the degree of racial bias shown by jurors. One factor was the race of the juror; Black jurors showed more racial bias than white jurors when giving guilty or not guilty verdicts. A second factor was whether the jury were given instructions (e.g., establishing reasonable doubt, burden of proof, and some form of case law) to ensure juror impartiality and a third was the date of publication of the research.

### **WIDER ISSUES AND DEBATES**

#### **The use of psychological knowledge in everyday life**

The findings of Mitchell et al. (2005) concerning the influence of jury instructions are important. Juries can be instructed to deliberate only on the facts presented during the case and come to a decision based on reasonable doubt that the accused has committed the offence they are charged with. This could be taken further to include instructions that could debias a jury about race. Elizabeth Ingriselli (2014) researched the impact of a debiasing jury instruction on juror decision-making. She found that given a pre-trial jury instruction to 'not being influenced by bias, prejudice or sympathy' when forming a judgment lowered the number of guilty verdicts given to Black defendants from a majority of white jurors. Given that the race of a defendant should be an irrelevant factor in any court case, this knowledge could be used to debias jurors in real cases.

One question to consider when reviewing the research into race and jury decision-making is whether racial bias exists in real cases or is just found in mock jury studies. Mock jurors do not live through the trial, and their decisions do not hold the same significance as a real juror deciding on whether a person is sent to prison. Mitchell et al.'s (2005) meta-analysis revealed that racial bias was reduced in studies that adopted more ecologically relevant procedures. She found that racial bias was not significant when the studies used 'guilty/not-guilty' as a dependent measure, and when jury instructions were given to participants. This suggests that race may influence jury decision-making less when study procedures resemble those which a real juror would experience.

### **PRE-TRIAL PUBLICITY AS A FACTOR WHICH AFFECTS JURY DECISION-MAKING**

Nowadays, the internet, television and social media make it easy for us to acquire information or to communicate with other people, and not just people known to us. A criminal case is often documented in the media for a significant time before it goes to trial. Members of the general public, including potential jury members, may therefore form an opinion of the case and any identified suspects long before the trial.

### **THINKING LIKE A PSYCHOLOGIST**

In social psychology you studied majority and minority influence. Minorities can cause conformity for a number of reasons; informational social influence explains that in a situation where we are unsure of how to act and think, we often look to others to guide our actions, and normative social influence explains that we conform because we have a need to be accepted and fit into a group, or to avoid rejection. Minority influence is a form of social influence where people reject the established norms of the majority and move towards the behaviour and opinions of a minority group. Using these ideas from social psychology, consider how they might be relevant to the jury decision-making process.

**LINK**

You studied conformity and minority influence in Student Book 1, see page 21.

A juror's own schema can influence the process pre-trial information. During the trial, their personal schema can alter their perception of the evidence they are presented with in court. Pre-trial publicity can also be confused with information presented in court, so that a juror may believe what they have heard about the case was actually evidence presented in court. In this way pre-trial publicity can cause a source monitoring error where a juror can mistake where they learned something, which can cause inaccuracy in their understanding.

**LINK**

You learned about the development of schemas as a way of thinking in Student Book 1, see page 96.

Pre-trial publicity can involve two types of information: factual or emotional publicity. The former is likely to include incriminating information about the defendant or the case, such as what happened during the crime. Emotional publicity may not contain incriminating information, but is likely to present information that could arouse negative emotions. This could be information about the defendant or victim's past, for example. Emotional publicity is considered to have a longer lasting influence on jury members than factual information, which can be redressed within the trial as more information about what happened is presented to the jury.

**EVALUATION OF PRE-TRIAL PUBLICITY AFFECTING JURY DECISION-MAKING**

There is a great deal of psychological research into the effects of pre-trial publicity on jury decision-making. Many of these studies have used mock juries deliberately exposed to specific media sources and information. They may not, therefore, reflect the effects of real pre-trial publicity on real jurors. Real jurors cannot be deliberately exposed to pre-trial publicity before they serve on a jury because of the potential bias it may cause in their decision-making.

**EXAM TIP**

In the exam you may be asked to justify whether pre-trial publicity would affect jury decision-making in a given scenario. For example, Lois is a lawyer. She is defending a client who is on trial for fraud. The case has been reported in the national news and has been a popular topic on social media. Some of the reports have been very negative towards her client. Lois is concerned that her client will not get a fair trial because of the negative pre-trial publicity. Explain one aspect of pre-trial publicity as an explanation of why Lois's client may not receive a fair trial.

To answer this type of question you will need to explain research which supports negative pre-trial publicity having an effect on jury decision-making, while relating your answer to the scenario. For example: Ruva et al. (2007) found that negative pre-trial publicity can bias a jury to make a guilty decision and this would impact Lois's client as they found that 73 per cent of collaborating jurors voted guilty compared to 27 per cent exposed to no pre-trial publicity. This shows that negative pre-trial publicity can affect jury decision-making, which may result in Lois's client being found guilty of fraud.

**LINK**

You can learn more about Ruva et al.'s study on page 157.

Christine Ruva, Cathy McEvoy and Judith Becker Bryant (2007) found that negative pre-trial publicity about a defendant can have an extremely biasing effect on juror decision-making. Negative pre-trial publicity can bias a jury to believing that a defendant is more guilty and less credible than jurors not exposed to negative publicity. This effect was reduced following jury deliberation, but overall jurors tended to confuse the sources of information between pre-trial publicity and case evidence, leading to an influence on their verdict.

**SKILLS**COMMUNICATION,  
COLLABORATION**ACTIVITY 1**

You can investigate the influence of negative pre-trial publicity yourself. Write a short newspaper article about a crime which has negative comments made about a defendant.

For example: *Mr Zhao was arrested late last night for breaking and entering luxury properties in search of valuables. After a series of burglaries involving theft of diamond rings and valuable watches, Mr Zhao was captured on CCTV. Mr Zhao was described by his neighbours as an unpleasant man who often shouted abuse at them and frequently overturned their rubbish bins. Mr Zhao's employer commented that he was always suspicious of him and never really liked him.*

Then create a fact file about the case. For example:

- *Mr Zhao was arrested for common burglary.*
- *He was caught stealing belongings from several luxury properties.*
- *He was caught on CCTV.*
- *Mr Zhao is responsible for stealing diamond rings, high-value watches and other valuable personal items.*
- *The items were retrieved from Mr Zhao's home when he was arrested.*
- *The jury found Mr Zhao guilty of burglary.*

Share your article in a group. Ask one half of the group to read both the newspaper article and trial facts, and the other half to just read the trial facts. Ask the whole group to decide the length of sentence that Mr Zhao should serve in prison.

Compare the findings for both groups to see whether exposure to negative pre-trial publicity resulted in giving Mr Zhao a longer sentence.

Nancy Steblay et al. (1999) investigated the effect of pre-trial publicity on juror verdicts by undertaking a meta-analysis of 44 empirical tests representing 5 755 subjects. They found that jurors who were exposed to negative pre-trial publicity were significantly more likely to judge the defendant guilty (59 per cent) compared to those exposed to less or no negative pre-trial publicity (45 per cent). This was more likely in the cases involving murder and other serious offences, or when there were multiple pieces of negative information. It was also noted to be the case when there was a greater length of time between exposure to the publicity and judgment.

James Ogloff and Neil Vidmar (1994) looked at the effect of television as a form of pre-trial publicity, and whether this had a greater or lesser influence on potential jurors. They used a case in which there were extensive amounts of pre-trial publicity. They found that the potential jurors did express negative bias in the presence of negative pre-trial publicity, and that they were unaware of the biases they had. Ogloff and Vidmar concluded that television publicity alone, or television and printed articles such as newspapers, had a greater influence on potential jurors than printed media alone. This raises concerns in the current digital era of television-based news being available 24 hours a day, and the constant access to online news, so increasing the potential for biases to occur.

Margaret Kovera (2002) discusses how any type of media exposure can influence a juror's decision-making process, not just negative exposure. The study used two assault cases with varied media exposure, some of it pro-defence (positive), some pro-prosecution (negative) and the rest was neutral in that it did not address the rape. The findings were that jurors (undergraduate students) who watched a pro-defence rape trial reported that they needed more evidence in order to convict someone of rape than participants who watched a pro-prosecution rape trial.

Christine Ruva and Michelle LeVasseur (2012) undertook content analyses of 30 mock-jury deliberations. It was found that pre-trial publicity exposure does influence the interpretation and discussion of trial evidence during deliberations as well as the views of potential jurors. Jurors who were exposed to negative publicity (anti-defendant) were significantly more likely than their non-exposed counterparts to discuss ambiguous trial facts in a manner that supported the prosecution's case, but rarely discussed them in a manner that supported the defence's case. This study also found that jurors exposed to pre-trial publicity were either unwilling or unable to adhere to instructions telling them not to discuss any pre-trial publicity they may have seen, and rarely corrected jury members who also mentioned it.

While there has been a lot of research undertaken about jury decision-making, there are a number of issues to consider when evaluating the reliability of such studies. A lot of research is conducted with research participants, often students, being asked to make decisions in a mock trial. This is not a representative sample of the population. Brian Bornstein's (1999) meta-analysis of mock jury research has found that while there is little difference in the decisions of students versus non-student mock juries, any differences that are evident suggest that students tend to be more lenient than other populations. The information summarising a criminal offence is also presented in a written format rather than watching it unfold in a real trial. A real jury will be influencing the decision of a real judge so it has serious consequences for a defendant. This is not the case in mock trials and may affect how seriously the participants take the experiment. While experimental research in laboratories can isolate variables, this approach fails to account for the fact that jury members in actual trials are subject to a wider range of factors that can influence their decisions. Findings of laboratory research into jury decision-making do not therefore have the realism of a real trial.

Charlan Nemeth (1977) found that there was no difference in jury decision-making within mock trials for those presented in the form of a written summary or when staged live. This provides reassurances that the way in which the mock trial is conducted will not affect the outcome of the decision-making. Researchers can therefore select the mock-trial approach most suited to their research aims without concern that this in itself will influence the findings. As a result, this makes the research methodology most applicable to its purpose.

In the past, real jury members have been asked to complete self-reported questionnaires after the trial has ended. There are limitations involved in self-report data but this provides a rare opportunity to obtain information about decision-making in a real-life situation. This is likely to provide a more reliable account than that of mock trials. Asking real-life jurors may provide information about what decisions they did make, whereas in a mock trial, it can only be recorded what a participant would do.

### THINKING LIKE A PSYCHOLOGIST

Different countries have very different legal processes. Research undertaken in one country may therefore not apply to other countries as the role of the jury or the influence of their decisions may vary. For example, some states in the USA carry the death penalty for some offences. The effect of finding someone guilty in the USA for a serious crime may therefore influence the jury in a different way compared with countries that do not use the death penalty. This will make comparison to different legal jurisdictions potentially inaccurate.

Studies into eyewitness testimony are conducted throughout the world. It is helpful to know in which countries studies were conducted as this may have an impact on the extent to which they will be applicable to other countries or culture and, if not, why they are not applicable. For each study you have looked at, investigate the legal process for each of the countries in which the study was undertaken. Note down any significant differences in legislation.

## RESEARCH INTO EXPERT TESTIMONY

An expert witness can help jurors understand the facts of a case



Expert testimony is given by an expert witness in court to provide objective and unbiased specialist knowledge about a case which maybe beyond the understanding of a juror. Their expert testimony may be used to understand complex forensic, clinical, financial or technological evidence. They can also be used to educate the jury about the credibility of witness testimony or identification. This expert psychological testimony is different from that of other experts. An eyewitness expert will be used to inform the jury about basic memory processes, such as the reconstructive nature of memory. They could also advise on specific factors associated with the case, such as cross-racial identification or the impact of stress on memory performance. We have learned that there are many factors affecting eyewitness reliability, and that mistaken eyewitness accounts can lead to wrongful conviction. So having an eyewitness expert advise the court could be useful in alerting jurors to this and preventing such miscarriages of justice.

### EVALUATING RESEARCH INTO EXPERT TESTIMONY

There is controversy over using an expert witness in court and critics argue that experts can be biased in their opinion or unfairly bias a jury against a witness. There are also existing legal safeguards in place that increase the jurors' ability to assess eyewitness accuracy, such as cross-examination of the witness and jury instructions. However, some researchers believe that these safeguards are ineffective.

Angela Jones et al. (2017) used a mock jury study on 452 participants to compare the effectiveness of jury instructions and expert testimony on a juror's assessment of witness and identification conditions. They found that jurors were alert to the quality of the witnessing conditions on their own, being able to convict or not based on the quality of the witness and identification conditions. The use of expert testimony raised juror scepticism about the witness testimony and identification and resulted in them being less likely to convict regardless of witness and identification conditions. They concluded that neither the jury instructions nor the expert testimony assisted jurors in being able to evaluate the credibility

of the witness testimony. Expert testimony questioning the reliability of certain witness evidence does reduce the trust in such evidence, but does not necessarily help discriminate between 'good' and 'bad' evidence.

Another controversy over the use of an expert witness is whether the jurors' understanding of memory is sufficient to exercise caution when assessing its reliability in court. Experts on memory can understand that human memory is prone to contamination, reconstruction and that false identification can occur. The question is whether an ordinary person selected to sit on a jury would also have the same understanding of memory. If an ordinary person does not understand that memory is fallible, it could suggest that an expert witness would be beneficial in court. Tanja Benton et al. (2006) surveyed the views of 111 ordinary people about memory compared to experts. Their research showed that 60 per cent of ordinary people believed that memory could be influenced by post-event information, compared to 95 per cent of experts. They also found that 30 per cent of ordinary people believed that misidentification can occur, compared to 81 per cent of experts. This research seems to suggest that the ordinary person could be more trusting of an eyewitness than psychological research would advise.

Rebecca Helm (2021) conducted a mock jury study to investigate whether giving jurors information about memory can help them better assess witness evidence. Participants read about a murder case which contained either strong or weak witness testimony. Some participants were asked to reach a verdict given no instructions, some were given general information about the nature of memory and some were given detailed information about false memory. She found that giving the detailed information about false memory influenced juror decision-making by reducing the guilty verdicts when the witness evidence was weak, but not when the witness evidence was strong. This research suggests that expert testimony does not make jurors sceptical of eyewitness evidence, but instead can be helpful in identifying the potential of false memory. However, as with all mock jury studies, caution should be taken when applying these findings to a real case. Mock jurors in this study were only exposed to a simplified transcript of the case and did not hear any cross-examination of the witnesses. They also were aware that giving a guilty verdict would not actually result in the defendant serving a life sentence for murder, and had no opportunity to deliberate with other jury members. This means that the benefit of giving real jurors information on false memory cannot be predicted.

### PENROD AND CUTLER (1989) EYEWITNESS EXPERT TESTIMONY AND JURY DECISION-MAKING

Steven Penrod and Brian Cutler (1989) report three studies which examine whether expert testimony improves or impairs jury decision-making.

#### STUDY ONE

The first study was a quantitative analysis of experiments conducted into eyewitness identification to establish whether the existing research on human memory was sufficient to draw valid conclusions about real-life eyewitness testimony. If we are unable to determine whether psychological research tells us anything about eyewitness memory, then the role of an expert witness in court would not be beneficial for a jury, and could impair their ability to assess witness evidence.

In this study they re-examine the meta-analysis on conducted by Shapiro and Penrod (1986). Shapiro and Penrod analysed the results of 128 eyewitness identification and facial recognition experiments investigating factors such as cross-racial identification and context reinstatement involving 16 950 participants. The analysis established that there were several factors which had reliable effects on eyewitness memory in the laboratory and in field settings. This indicates that laboratory-based memory research could explain eyewitness memory. This gives grounds for the use of expert testimony being used in court.

## STUDY TWO

In the second series studies, mock jurors were shown realistic videotaped court trials of an armed robbery. In each trial the central evidence was the positive identification of the robber by the victim. Participants in one condition consisted of 321 students, and the second condition consisted of 129 jury eligible or experienced jurors. All participants watched the 45-minute trial footage which closely resembled the proceedings of a real trial including opening statements by defence and prosecution lawyers, examination and cross-examination of the witnesses, closing arguments and judge's instructions. The first witness was the store clerk who was the victim of the robbery who identified the robber in a line up and was 80 per cent confident she *could* identify him. The second witness was a police officer who testified about the conditions under which the witness identification was made. The third witness was a friend of the defendant who offered a weak alibi for the defendant. The fourth witness was the defendant himself who denied the charges.

Penrod and Cutler manipulated ten factors during the examination or cross-examination statements of the first two witnesses across 64 versions of the trial footage. Some participants heard the victim testify that the robber wore a knitted cap covering his hair, and some heard her testify that he wore no hat. In other conditions the following variables were manipulated:

- whether a weapon was pointed at the victim or concealed
- whether the victim was threatened and pushed to the floor or the robber calmly demanded the cash
- whether the victim made the line-up identification 2 or 14 days after the robbery  
whether the victim searched through mugshots between the robbery and the line-up identification
- whether the victim was offered the chance to reject the line-up by a police officer
- whether the victim testified that the line-up consisted of 6 or 12 people
- whether some members of the line-up were similar to the robber in appearance
- whether the victim heard the robber speak or not during the line-up
- whether the victim was 80 or 100 per cent confident in her actual identification.

Each participant was asked whether the robber was guilty or not guilty and to rate the probability that the identification was correct. Other dependent variables included the perceived strength of the case, the fairness of the line-up and how frightened the witness testified to have been during the armed robbery. The researchers also asked participants to rate the probability that an average person could make an identification in the same situation.

The purpose of this series of studies was to establish whether jurors were influenced by variations in the crime and identification procedures which may have affected their judgement of the identification accuracy. The researchers found that jurors were not significantly influenced by these factors. In fact, of the ten factors manipulated, only witness confidence had any statistically significant effect on the verdicts given and the likelihood of the victim identification being accurate. This indicates that jurors are not sensitive to factors which normally influence eyewitness identification; they therefore seem to be naïve to potential witness errors. They also highlight that jurors place disproportionate weight on witness confidence, which is not a useful predictor of witness accuracy. The researchers also point out that because there was no difference in judgements made by the students or eligible/experienced jurors, evidence from student populations can be generalised to all potential jury members.

So far studies one and two have established that laboratory research into memory can be applied to real eyewitness memory, and that potential jurors are unaware of factors which

impact on eyewitness reliability. A third study was arranged to examine whether expert testimony would make jurors more sensitive to factors which are known to influence eyewitness memory.

### STUDY THREE

Both critics of expert eyewitness testimony and psychologists have expressed concern over the use of experts in court. Some argue that they may confuse witnesses or could impact jury decision-making in an undesirable way, such as becoming sceptical about a witness. It could be that an expert has no effect on juror decision-making at all, which would suggest that it is a waste of time and money. This third series of experiments tested firstly whether expert testimony led to greater consideration of factors affecting witnessing and identification and less consideration of witness confidence. Secondly, whether different forms of expert testimony led to different juror judgements.

Cutler, Penrod and Dexter used 538 students who witnessed the same variations of video footage of the trial in study two, this time including expert eyewitness testimony. The expert was depicted to explain to the jury the reconstructive nature of human memory and how the crime and identification procedures might have influenced the witness' memory of the robber. The expert was seen to specifically educate the jury on the effects of stress, weapon presence, line-up procedures, and the relationship between witness confidence and accuracy. The expert was then cross-examined by the prosecution lawyers, who were seen to make various claims to discredit the expert, such as in previous trials the expert had only testified for the defence, and that psychological research cannot be applied to real eyewitness testimony.

Four variables were manipulated across eight conditions of the study; witnessing and identification conditions (poor: disguise and weapon present, recall after 14 days and suggestive line-up procedures, or good: no disguise, concealed weapon, recall after two days and non-suggestive line-up procedures), witness confidence (80 or 100 per cent), form of testimony, and whether or not the expert gave an opinion on the accuracy of the witness' identification of the robber. The form of testimony was either the expert describing memory research, or describing and quantifying the memory research with facts and figures. The opinion of the expert was delivered as an opinion on a scale of 0–25. In the poor witnessing and identification condition this was offered at a rating of 7, and in the strong witnessing and identification condition the expert rated it at 20.

The researchers tested the jurors' memory for the witnessing and identification conditions and for the expert testimony. Jurors were also asked to rate the extent to which the witnessing factor was likely to contribute to an accurate identification of the robber. Participants also rated the credibility of the eyewitness and the strength of the legal teams' cases. They gave the defendant a verdict and rated the probability of the defendant's guilt, the likelihood of the witness correctly identifying the robber and the probability of an average person being able to identify the robber under the same circumstances. These dependent variables were used to establish whether the juror could remember the evidence, whether they felt it was important, or if they failed to give enough importance to the information in their judgements.

Overall, the researchers found that expert testimony improved juror sensitivity to witnessing and identification conditions. Jurors took the witnessing and identification factors into account to a greater extent and gave less weight to witness confidence. Descriptive testimony was more effective than descriptive and quantitative expert information. They also found no scepticism effects as neither the presence of expert testimony or the type had any impact on credibility ratings of the witness or verdict. These findings seem to support the use of experts in court.

This suggests that the trial process is vulnerable at many stages, as the jury members are susceptible to influence throughout the process, even before being selected as a jury member, and after all the evidence has been presented.

**SKILLS**

CONTINUOUS LEARNING,  
ANALYSIS, SELF-REINFORCEMENT

**ACTIVITY 2**

To help piece together the studies presented by Penrod and Cutler, copy and complete the following table:

Study	Research method	Purpose	Findings
One	Reassessment of meta-analysis data	To establish whether laboratory research into memory can explain eyewitness memory	
Two	Experiment: mock jury	To establish whether jurors are aware of factors affecting eyewitness memory	
Three	Experiment: mock jury	To establish whether expert testimony aids juror assessment of eyewitness reliability	

### OTHER FACTORS AFFECTING JURY DECISION-MAKING: ACCENT AND ATTRACTIVENESS

A person's accent can affect a listener's judgement of that person. Shiri Lev-Ari and Boaz Keysar (2010) conducted experiments where participants were exposed to statements made by either a native speaker (American-English), a mild non-native speaker (Polish, Turkish or German) or a strong non-native (Korean, Turkish or Italian). Participants were asked to judge the truth of the statements spoken. They found that strong non-natives were judged as less truthful than natives, concluding that this was probably due to the difficulty in processing their speech. The extent to which this would influence jury decision-making was investigated by John Dixon and Berenice Mahoney (1997). In a study conducted in the UK, participants were just given a transcript and a tape recording to listen to with different accents. The recording was a conversation between a suspect and a police officer. Some participants heard the suspect using a standard English accent and some heard a regional accent (Birmingham). They found that participants exposed to a regional accent rated the suspect as more guilty than those who heard the standard accent. Furthermore, Ian Seggie (1983) investigated the effect of three accents (British, broad Australian and Asian) on Australian participants' perceptions of guilt for different crimes (assault or theft). Seggie found that accent interacted with type of crime. Participants rated the broad Australian accent as more guilty of assault and the British accent as more guilty of theft.

Villains in films are usually portrayed as unattractive, and are often presented as untrustworthy. The 'good guys' however, tend to be attractive, and appear more trustworthy and honest. This creates a stereotype that can be found in jury decision research, including that found by Harold Sigall and Nancy Ostrove in 1975. They asked 120 participants to make sentence recommendations for a defendant for either burglary or fraud. They were given a piece of card with a crime written on it, either fraud or burglary, and a photograph of a woman known as Barbara Helms. There were a number of conditions to the research. The participants were separated into six groups of 20 participants, with each group having a different experimental condition (see '*Experimental conditions* box').

**Experimental conditions**

1. Attractive photo of Barbara accused of burglary
2. Unattractive photo of Barbara accused of burglary
3. No photograph with the burglary case (control group)
4. Attractive photo of Barbara accused of fraud
5. Unattractive photo of Barbara accused of fraud
6. No photograph with the fraud case (control group)

All participants were asked to rate Barbara's attractiveness to ensure they agreed which photographs showed her as unattractive and attractive. They were then all asked to give her a prison sentence between one and 15 years for the crime. They found that Barbara was sentenced to longer in prison in the fraud conditions and less time in prison for burglary in the attractive photo condition. A similar length of sentence was given for both crimes in

the 'unattractive' and 'no photograph' conditions. This suggested it was the attractiveness of the photograph that influenced their decision. This could be due to an assumption that attractive people use their looks to con people out of money, whereas attractive people are not associated with burglary.

This study, while informative, would not be applicable to a real trial, as the jury can only make a decision on guilt and do not decide the length of a sentence for a defendant who has been found guilty. Only the judge has the legal power to make that decision to ensure impartiality. It does, however, provide information about the perceptions of the people towards those of different levels of attractiveness.

It must also be noted that attractiveness is a highly subjective concept. The Halo Effect is a cognitive bias which occurs when the appearance of a person influences our judgements of their character. Mahoney and Dixon's study exemplifies this cognitive error when formulating impressions of guilt about the woman. This study illustrates that irrelevant information about attractiveness, which is formed on incorrect stereotypical assumptions which are not associated with morality, can influence decision-making.

#### CHECKPOINT

1. Can we investigate real juries as they make their decision?
2. How does race as a characteristic of a defendant affect jury decision-making?
3. What is a potential implication of racial bias in the justice system?
4. Name one study which shows how race can affect jury decision-making.
5. How can pre-trial publicity affect jury decision-making?
6. How can the justice system address own-race bias in jury decision-making?
7. What does the justice system typically do to reduce the effects of pre-trial publicity?
8. Describe one psychological study which shows that negative pre-trial publicity can result in a pro-prosecution bias.
9. Name two other defendant characteristics which can influence jury decision-making.
10. What might be a problem with psychological research into factors affecting jury decision-making?

#### SKILLS

ANALYSIS, CRITICAL THINKING,  
REASONING

#### EXAM PRACTICE

1. ZsaZsi used a mock jury study to investigate the impact of witness confidence on jurors' perception of the accuracy of eyewitness testimony. She created two videos of the same murder trial, one where the witness stated they were 70 per cent confident in their identification of the murderer and one where the witness was 100 per cent confident in their identification. She gathered participants from her university common room to watch the video and rate whether the murderer was guilty or not guilty.
  - a) Explain two strengths of ZsaZsi using a mock jury research method to investigate jury decision-making. (4 marks)
  - b) Explain two weaknesses of ZsaZsi using a mock jury research method to investigate jury decision-making. (4 marks)
2. Describe pre-trial publicity as a factor that influences jury decision-making. (3 marks)
3. Justify race as a factor that affects jury decision-making. (2 marks)
4. Evaluate Penrod and Cutler's (1989) research into eyewitness expert testimony. (8 marks)

# CHAPTER 11 TREATMENT

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe the use of cognitive behavioural therapy (CBT) as a therapy for offenders
- evaluate the effectiveness of CBT as a therapy for offenders.

## GETTING STARTED

Once an offender has been convicted of a crime, they are typically given a custodial sentence (in prison) or non-custodial sentence (e.g. a fine or community service). They may also be recommended for treatment.

Consider the following crimes:

- murder
- assault
- arson
- fraud
- shoplifting
- driving without a licence.

In pairs, discuss whether these types of crime are likely to receive a custodial or non-custodial sentence. What types of non-custodial sentence can you think of? If the crime results in a custodial sentence, what types of treatment do you think the offender would be recommended for?

Punishment for offenders convicted of crimes is commonly used within the criminal justice system. This may include being sent to prison, being given fines or undertaking community service. There has been an increase in the inclusion of treatment for offenders in addition to being punished for their offence. The majority of treatment focuses on psychological techniques and behavioural treatments.

Punishment teaches offenders that there are consequences to their offending behaviour. It aims to act as a deterrent by restricting their activities and, if they are sent to prison, removing access to the community. Punishment does not, however, directly teach offenders how to act in a different way. Some offences may be committed because the offender is lacking in skills to deal with different situations or because they have learned to associate offending with certain positive outcomes. As a result, punishment cannot be the only solution to reduce reoffending.

Treating offenders aims to identify problem behaviours and the root causes of such behaviours, and to teach offenders non-offending ways to deal with their problems. The treatment is predominantly undertaken by forensic psychologists or staff trained in the skills required to provide the treatment to the offenders. If the staff are not psychologists, they are usually supervised by psychologists.

Offenders may receive treatment in the community or in prisons. The principles for each treatment are the same, irrespective of where the treatment is delivered. The extent of the treatment may differ depending on the severity of the offence and the risk of future reoffending.

## COGNITIVE BEHAVIOURAL THERAPY

Cognitive behavioural therapy (CBT) is a treatment option that helps the offender to develop insight into their thoughts and feelings and how these influence their behaviour. CBT works on the premise that for every situation we experience, we have thoughts about that situation (the cognitive part of CBT). We will also have emotional reactions to the same experience. Our

**KEY TERM****prosocial behaviour:**

behaviour that takes account of the welfare of others and avoids harming others deliberately

thoughts will then influence our behaviour and how we react to the situation (the behavioural part). It is possible to change an offender's reactions to the same experience by developing their awareness of their own thoughts, and changing their thoughts to ensure their behaviour in the same situation is more **prosocial**. It also works to encourage the offender to consider alternative ways they could act in situations that are not criminal. The offender may undertake CBT on an individual basis, with the therapist, or in a group setting with other offenders and a therapist guiding the discussions.

CBT has a sound theoretical basis in treating offenders because the way a criminal thinks has been firmly linked to their offending behaviour (Beck, 1999). Criminals have been shown to display distorted thinking such as displacing the blame of their crime onto the victim or another source external to themselves, justifying their offending, misinterpreting social cues as potential threats and having schemas related to self-dominance and personal entitlement. These distorted ways of thinking are assumed to be learned, so CBT aims to help offenders identify and restructure these faulty patterns of thinking, develop victim empathy and challenge their tendency to self-justify their offending.

CBT typically involves the elements of cognitive training skills, anger management and other components, such as social skills training and relapse prevention. Cognitive skills training aims to teach thinking skills in order to better problem solve. Often role-play is used to help with critical thinking and perspective taking, to practise new ways of coping with situations which would typically cause aggressive or criminal behaviours. Anger management focuses on teaching offenders to monitor their thoughts in situations where they typically react with anger. They learn strategies to identify anger triggers and reconsider their interpretation of these triggers as non-hostile explanations.

CBT treatments differ in their delivery: some are focused on anger management, some on conflict resolution, and others may focus on moral reasoning and preventing relapse.

**THE 'REASONING AND REHABILITATION PROGRAMME'**

One CBT treatment is branded the 'Reasoning and Rehabilitation programme' (R&R) which was developed in Canada by Robert Ross and Elizabeth Fabiano (1985). The R&R programme is designed to teach offenders critical thinking, social skills, assertiveness skills and how to negotiate and get along with others. This helps to restructure their rigid, illogical thinking and consider the consequences of their behaviour. It helps offenders to consider alternative ways of behaving and to think about the impact of their behaviour on others. The main purpose is to equip offenders with the thinking skills to make prosocial behaviour choices that will allow them to navigate out of a criminal lifestyle.

The R&R programme typically consists of 36 group sessions lasting for two hours, between two and four times per week. Each session can involve group discussions, **Socratic questioning**, role playing and thinking games, all designed to challenge the offender's beliefs and develop better thinking, emotional regulation and problem-solving skills.

**KEY TERM****Socratic questioning:**

a thoughtful method of questioning used in CBT to identify values and beliefs

**MORAL RECONATION THERAPY**

Other CBT packages focus on morality training. 'Moral Reconation Therapy', established by Greg Little and Ken Robinson (1986), employs a series of group and workbook exercises to target reducing criminal thinking. The workbook contains exercises to encourage moral thinking, such as creating an awareness of beliefs around criminal activity, and developing tolerance to frustration. It is assumed that criminals have an underdeveloped morality, so the treatment is designed to teach moral reasoning and judgement. Offenders are taught about social rules and the importance of considering others. Because the programme involves a staged workbook, each offender must complete a series of homework assignments in order to pass to the next stage.

**LINK**

Anger management is discussed as a specific CBT application on page 139.

**KEY TERM**

**cognitive restructuring:** the process of identifying and challenging maladaptive/negative thinking patterns and replacing them with more objective and adaptive ones

**ANGER MANAGEMENT**

A common application of CBT for offenders is that of anger management, endorsed by Raymond Novaco since the 1970s. Novaco describes anger as a strong emotion that has an impact on a person's physiology, behaviour and cognition. Anger management teaches relaxation techniques to deal with the physiological response to anger (for example, increased heart rate), **cognitive restructuring** to retrain thought patterns and 'time out' or assertiveness training to deal with the behavioural element of anger. There are three steps involved.

**1. Cognitive preparation**

Offenders identify situations that provoke anger so they can recognise when an aggressive outburst is likely to occur. Thought patterns are challenged. For example, if they become angry when laughed at, they might work through alternative conclusions such as that people are laughing at the behaviour and not at them. They also consider the negative consequence of their anger on others.

**2. Skill acquisition**

New coping skills are learned to help deal with anger-provoking situations, such as relaxation, avoidance or social skills, such as assertiveness and conflict resolution. As anger is a normal emotion experienced by everyone, offenders are not taught to be fearful of becoming angry. Instead the emphasis is on giving the offender skills so that they can control their anger.

**3. Application practice**

Offenders role-play a variety of scenarios to practise new skills to control anger. These are conducted in controlled environments so that the offenders feel safe and untrained individuals are not exposed to risk of harm.

Anger management programmes can be used in prisons or with offenders who are serving a probationary period in the community. The courses are usually conducted in small groups and last for approximately ten sessions, although some can last for a number of months.

Offenders may be asked to complete anger diaries on a regular basis. Table 11.1 is an example of what an anger diary may look like. They will complete this every time they feel angry. With support from the therapist, they will start to recognise their triggers for anger and be in a position to evaluate which anger management techniques are effective for them in specific situations. The anger diaries may have additional columns added to them as they become more insightful throughout their treatment. This adopts a scaffolding approach to learning, to avoid giving the offender too many expectations at the start of the therapy when they are likely to need to develop their understanding before they can use these skills.

TABLE 11.1: EXAMPLE OF AN ANGER DIARY

Date	What happened when I started to feel angry (Trigger)	What physiological symptoms did I have?	On a scale of 1–10, how angry did I feel (10 being very angry)	What did I think about the situation?	How did I deal with the situation?
Tues 1 July	Someone bumped into me and I spilt my coffee	Heart racing Fast breathing	5 / 10	'How dare he?'  'He did that on purpose'	I shouted at him and told him to get me another drink

Other CBT programmes contain a combination of anger management, thinking skills and preventing relapse. Typically CBT incorporates aspects of social skills training, problem-solving skills and assertiveness training. CBT as a treatment package is used to encourage offenders to consider their existing social skills and to develop these and other social skills.

One social skill that is focused on is assertiveness. This involves communicating in a confident, non-confrontational way to minimise conflict and increase the likelihood the offender will be responded to positively. This will encourage an offender who may usually interact with others in an aggressive manner, such as by communicating in a forceful, threatening or intimidating style, to consider how to do so in a more assertive way instead. They will be encouraged to practise the techniques introduced within such treatments and reflect on how successfully they used the skills. Such treatment provides a supported approach to developing skills that, by giving greater guidance, is more effective than simply telling the offender what they should do. The offender will learn from personal experience how beneficial it may be to be polite in a situation. It also helps them to feel more confident in being able to use the skills. The offender is then more likely to continue to use the skills in the future.

### EVALUATION OF THE EFFECTIVENESS OF CBT AS IT IS USED TO TREAT OFFENDERS

CBT is not a form of counselling; it therefore does not focus on overcoming emotional reactions to difficulties in the past, as counselling often does. The focus is mainly on the present thinking of the offenders, at the time of the treatment, although it does acknowledge past thoughts and experiences. CBT does not work immediately. It requires a commitment from the offender in order for it to be effective. As a talking therapy, it requires the offender to talk to the therapist about their thoughts and experiences so that the therapist can help them to understand their reactions to different situations and consider alternative thoughts and behaviours.

L. S. Joy Tong and David Farrington (2006) conducted a meta-analysis on the implementation of R&R in four countries: Canada, USA, UK and Sweden. They found that R&R reduced reoffending by 15 per cent compared to the control groups (increased reoffending by 16 per cent) suggesting that overall, the R&R programme seems to be an effective treatment for offenders. They also found that it was effective for use in both prison and community settings, with volunteers and non-volunteers, and in all countries studied. It was effective with high and low risk offenders, but was much more effective with low risk offenders. However, the researchers did note that the European research included in their meta-analysis did not employ randomised controlled trials.

### WIDER ISSUES AND DEBATES

#### Psychology as a science

Randomised controlled trials are designed to evaluate the effectiveness of a therapy or intervention programme. Once a target population has been identified for research, a sample is recruited and then randomly assigned to either the treatment or control group. Random allocation of participants is an essential feature of a randomised controlled trial. If random allocation is not used, participant variables may prevent cause and effect relationships being drawn. This means that we cannot be sure that the improvement shown in a treatment group compared to the control group is due to the actual treatment received or other factors. These other factors could be that the participant was selected to undertake the treatment because they are likely to achieve the most benefit, they are highly motivated, or volunteer, or that they are more likely to complete the treatment programme. It is therefore unsurprising that studies which do not employ randomised controlled trials often find that a treatment was effective.

### KEY TERM

**recidivism:** rate of reoffending

In a meta-analysis of moral reconation therapy (MRT), Myles Ferguson and Stephen Wormith (2013) examined 33 published studies comparing MRT with a control group. They found that study results following up offenders over an average of three years showed that **recidivism** was

reduced by up to a third compared to those who received no treatment. The outcomes were better for adult offenders compared to juvenile offenders. However, the treatment seems to be only beneficial when delivered in a prison context, as Daniel Blonigen et al. (2023) found no difference in improvement between MRT and usual care in a residential mental health setting.

CBT has been shown to be effective in helping to treat many emotional difficulties, in offenders and non-offenders. In a meta-analysis of 20 group-oriented CBT research studies, David Wilson, Leana Bouffard and Doris McKenzie (2005) found that CBT was found to reduce recidivism up to 30 per cent more than control groups that did not receive CBT. Specifically, the use of MRT and R&R were most effective. Other meta-analyses of CBT have also found it to be more effective than behavioural techniques in reducing reoffending (Pearson et al., 2002). However, some of the studies within each meta-analysis showed a greater effect than others, so it is not yet certain what aspect of the therapy works on what type of offender. There may be variables that moderate whether the effect of CBT on reoffending rates is small or large in bringing about changes in criminal thinking. In a review of 58 CBT studies, careful scrutiny of possible moderator variables, such as type of offender in the programme, methodology of the study and nature of the intervention, revealed that only the amount and quality of the CBT programme affected the likelihood of success (Lipsey, Landenberger and Wilson, 2007). This suggests that any CBT programme is beneficial.

Anger management programmes are only effective for those offenders who have problems with anger control. Not all offences, even violent ones, are committed because the offender was unable to control their anger. Before attending a treatment for anger, offenders will be interviewed to assess if this would be a suitable treatment for them. Kevin Howells et al. (2005) showed that anger management was effective only for those motivated to change their behaviour, who are committed to the programme.



Anger management programmes can be effective for some offenders

Ireland (2004) assessed 50 young male prisoners on an anger management course and 37 control prisoners. It was found that 92 per cent of the prisoners showed an improvement in their management of their anger, suggesting such programmes are effective. It is possible, however, that offenders may be dishonest on psychometric assessments measuring anger and

**EXAM TIP**

In the exam you may be asked to justify the use of CBT for offenders. It is useful to offer evidence which justifies the effectiveness of CBT as a treatment for offenders, so it is important to learn the study evidence.

may try to show that they have either improved their anger management skills or minimised the anger they experienced in the first place. This remains a difficulty with any intervention that relies on self-reporting data, particularly from offenders as there may be a greater 'incentive' to lie, including looking good for parole (if in prison) or trying to have their restrictions reduced by demonstrating that they are no longer a risk to the public.

Frank Pearson et al. (2002) reviewed the impact of social skills training on reoffending rates. They found that CBT programmes in general had a positive effect on reducing reoffending. However, it is difficult to assess the effectiveness of specific CBT techniques, such as social skills training, problem-solving and assertiveness training, because they are often used alongside other techniques. In a careful analysis of the techniques used within 58 CBT programmes, cognitive skills training and interpersonal problem solving were found to have a modest positive effect on reducing recidivism.

Specific treatment packages that focus on problem-solving skills in juvenile offenders have produced mixed findings. The 'Enhanced Thinking Skills' programme helps juvenile offenders to learn critical reasoning skills, problem solving and self-control. It is a 20-session programme, specifically focused on the cognitive skills that younger people may not have developed, which may have contributed to the offending behaviours. Initial research findings suggested that the programme lowered juvenile recidivism in low-, medium- and high-risk offenders (Friendship et al., 2002); however a reanalysis of the data did not show any significant effect in reducing reoffending (Falshaw et al., 2003). A later study found that significant effects were only shown after one year, but reoffending rates after two years were not improved by the programme (Cann et al., 2003), suggesting that cognitive training may only have short-term effects.

**KEY TERM**

**stressor:** any stimuli, internal or external, which places demands on the individual that require a physical or psychological change in order to cope

Cognitive behaviour therapy has been criticised for focusing on thinking skills and therefore failing to take into account the social factors, such as poverty and employment. These social factors are important predictors of reoffending and act as environmental **stressors** which are overlooked by the treatment.

A problem with evaluating cognitive behaviour therapy is that its effectiveness as a treatment is typically measured by looking at recidivism rates. It is assumed that if the therapy is effective then an offender will not go on to reoffend. Critics of this suggest that if a therapy is designed to change thinking patterns, then a better measure of success would be to evaluate whether there was any change in thinking. Additionally, using official recidivism statistics only measure arrest and conviction data, so does not detect unreported crime. It may be that an offender goes on to commit another crime but is not caught. This may mean that the outcomes of research may show that CBT is more effective than it really is. There are also significant issues with assessing the effectiveness of CBT programmes using meta-analyses because of the variation between different treatment programmes in terms of the quality of delivery.

**WIDER ISSUES AND DEBATES****Gender bias**

There is a prevalence of data regarding male offenders, as these represent the highest proportion of convicted criminals within the UK. Explanations for offending, such as elevated testosterone levels or XYY syndrome (a male chromosomal condition resulting in an additional Y sex chromosome), help to explain male offending, but do not explain why females commit offences.

Similarly, structured treatment programmes have been designed with men in mind, and therefore may not reflect the needs of female offenders; thereby making them less effective for female offenders completing such treatments. Consequently, less is known about the factors influencing women and how to address their treatment needs.

**SKILLS**ANALYSIS, SELF-REINFORCEMENT,  
SELF-DIRECTION**ACTIVITY 1**

CBT treatment as it is used for offenders is delivered in a variety of forms, some of which are covered in this chapter. Organise your knowledge of these CBT programmes by copying and completing the research findings in the table below:

Type of CBT programme	Research	Findings
The Reasoning and Rehabilitation programme	Tong and Farrington (2006) Wilson, Bouffard and McKenzie (2005)	
Moral Reconation Therapy	Ferguson and Wormith (2013) Daniel Blonigen et al. (2023) Wilson, Bouffard and McKenzie (2005)	
Anger management	Kevin Howells et al. (2005) Ireland (2004)	
Social skills, problem solving and assertiveness training	Frank Pearson et al. (2002) Friendship et al. (2002) Falshaw et al. (2003) Cann et al. (2003)	
CBT overall	Pearson et al. (2002) Lipsey, Landenberger and Wilson (2007)	

**CHECKPOINT**

1. Which CBT package focuses on teaching offenders to monitor their thoughts in situations where they typically react with anger? They learn strategies to identify triggers and reconsider their interpretation of these triggers as non-hostile explanations.
2. Which CBT programme is designed to help communicating in a confident, non-confrontational way to minimise conflict?
3. Which CBT programme is designed to restructure rigid, illogical thinking and consider consequences of behaviour? It develops thinking skills to make prosocial behaviour choices that will allow them to opt out of a crime.
4. Which CBT programme encourages an awareness of beliefs around criminal activity? Offenders are taught about social rules and the importance of considering others.
5. Name one study which demonstrates that CBT is effective in reducing recidivism.
6. Name one study which showed that CBT was only effective in offenders motivated to change.

**SKILLS**ANALYSIS, PROBLEM SOLVING,  
REASONING**EXAM PRACTICE**

1. Oshan has problems controlling his anger and becomes easily upset at the slightest thing. If someone says something he does not like, he will hit out at the nearest object and can become very aggressive. Oshan got into a fight with his friend because he thought the friend had insulted him. He was sentenced to eight months in prison for the assault and must undergo cognitive behavioural therapy (CBT) while in prison. Discuss how CBT could be used to help Oshan to control his anger. You must make reference to the context in your answer. (8 marks)
2. Describe the aim of CBT as a treatment for offenders. (2 marks)
3. Explain one way that the effectiveness of cognitive behaviour therapy as a treatment for offenders is measured. (1 mark)
4. Explain one problem with measuring the effectiveness of cognitive behavioural therapy as a treatment for offenders. (2 marks)

# CHAPTER 12 STUDIES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate one classic study by Loftus and Palmer (1974) Reconstruction of automobile destruction: An example of the interaction between language and memory
- describe and evaluate one contemporary study by Bradbury and Williams (2013) Diversity and Citizen Participation: The Effects of Race on Juror Decision-making
- describe and evaluate a contemporary study from one of the following:
  - Ruva, McEvoy and Bryant (2007) Effects of pre-trial publicity and jury deliberation on jury bias and source memory errors
  - Valentine and Mesout (2009) Eyewitness identification under stress in the London Dungeon.

## GETTING STARTED

At this stage in the course, you will have gained understanding into the factors affecting eyewitness testimony and jury decision-making, among others. You will also have studied research methodology in detail. Imagine that you are a psychologist who has been employed by the justice system to investigate jury decision-making. The justice system is particularly concerned that jurors are basing their verdicts upon stereotypical assumptions about defendant appearance. They have noticed that smartly dressed defendants seem to receive more innocent verdicts than scruffily dressed defendants. In pairs, design your own investigation into appearance and jury decision-making and make notes about the following:

- your study aim
- your predicted outcome (hypothesis)
- the method you will use
- your sample
- how you would go about conducting the research (procedure)
- how you would present and analyse your data to draw conclusions.

You will not actually be conducting this research, so you can use your imagination.

This is the type of exercise that many researchers undertake before they set about conducting research.

## EXAM TIP

In the exam, you can be asked specific questions about your classic and contemporary studies by Loftus and Palmer (1974) and Bradbury and Williams (2013). However, as there is a choice of second contemporary study – either Ruva, McEvoy and Bryant (2007) or Valentine and Mesout (2009) – you can only be asked for general information regarding their aim(s), sample, procedure, results and conclusion(s). You can also be asked for strengths and weaknesses of each study. This is important knowledge to build into how you revise for this section.

## LOFTUS AND PALMER (1974) RECONSTRUCTION OF AUTOMOBILE DESTRUCTION: AN EXAMPLE OF THE INTERACTION BETWEEN LANGUAGE AND MEMORY

Early research into memory identified how our recollection of an event can be distorted by post-event information. Elizabeth Loftus and colleagues have expanded on these early studies of memory to look specifically into memories of crimes, and factors such as the contribution of language and leading questions to the accuracy of testimony. Her ongoing research has been influential both within cognitive psychology and in its application to criminal matters. In this

study, Elizabeth Loftus and John Palmer looked at memory in general, rather than memory under specific situations. Her work has been pivotal in influencing the practice of law enforcers.

### LINK

You studied factors affecting eyewitness testimony earlier in this Topic (see page 112).



### AIM OF EXPERIMENT ONE

To investigate whether leading questions would influence the estimates of the speed of a vehicle among eyewitnesses.



▲ Figure 12.1 The language used when asking a witness to recall information can affect their memory of the incident

### PROCEDURE FOR EXPERIMENT ONE

A total of 45 students were shown seven short film clips of a traffic accident. After each film clip, participants were asked to give an account of the accident they had seen and were then given a questionnaire and asked to answer specific questions about the accident. The length of the film clips ranged from 5 to 30 seconds.

All participants received the same questionnaire with the exception of one critical question that was changed. One group of nine participants were asked the critical question, 'About how fast were the cars going when they hit each other?'. The remaining four groups of nine participants were asked the same question, but the verb 'hit' was changed to 'smashed', 'collided', 'bumped' and 'contacted'. Each of the five groups were shown the film clips in a different order. Loftus and Palmer knew the actual speeds of the cars in four of the seven film clips (one was travelling at 20mph, one at 30mph and two at 40mph).

### RESULTS FOR EXPERIMENT ONE

Table 12.1 shows that those participants presented with the verb 'smashed' estimated the fastest speed of the car before the accident. The verb 'contacted' produced the slowest speed estimate. There was a difference of almost 9 miles per hour (mph) in the estimates given for these two verbs.

TABLE 12.1: MEAN SPEED ESTIMATES FOR EACH VERB USED

Verb used	Mean speed estimate (mph)
Smashed	40.8
Collided	39.3
Bumped	38.1
Hit	34.0
Contacted	31.8

### CONCLUSIONS FOR EXPERIMENT ONE

They concluded that a change of word could significantly affect a witness's answer to a question. Loftus and Palmer believed that this might be due to two reasons:

1. The participant was uncertain of the speed being travelled and the verb used in the leading question to describe the contact of the cars created a bias which influenced their decision.
2. The wording of the question causes a change in the participant's memory of the accident, so they recall the accident as being more severe than it actually was.

### AIM OF EXPERIMENT TWO

The second experiment was designed to test whether the verb used in the question created a bias in the participant's response, or whether it created an actual change in memory of the incident.

### PROCEDURE FOR EXPERIMENT TWO

A total of 150 students watched a film showing a multiple car accident. The film lasted less than one minute, with the accident within the film lasting four seconds. They were then given a questionnaire in which they were asked to describe the accident and then answer questions about the accident.

As with experiment one, there was a critical question within the questionnaire. The participants were divided into three groups of 50. One group was asked, 'About how fast were the cars going when they smashed into each other?' A second group was asked, 'About how fast were the cars going when they hit each other?' The final group was not asked about the speed of the cars at all (no critical question). A week later the participants returned to answer ten questions about the accident, without watching the film clip again. All 150 participants were asked, among other questions, the following critical question: 'Did you see any broken glass?' The participants were asked to report 'Yes' or 'No'. In the film clip, there was no broken glass.

### RESULTS FOR EXPERIMENT TWO

TABLE 12.2: THE DISTRIBUTION OF 'YES/NO' RESPONSES TO THE QUESTION  
'DID YOU SEE ANY BROKEN GLASS?'

Answer to critical question	Verb condition		
	'Smashed'	'Hit'	Control
Yes	16	7	6
No	34	43	44

#### LINK

To refresh your understanding of chi-square tests go to Student Book 1, page 263.

As you can see in Table 12.2, in all conditions, most participants correctly identified that there was no broken glass seen in the film clip. A chi-square test was carried out and it was found that there was a statistically significant difference between the groups. A significantly higher number of participants in the 'smashed' group reported seeing the glass than in the 'hit' group; 32 per cent of those in the 'smashed' condition reported seeing glass compared to 14 per cent of those in the 'hit' group; 12 per cent of those in the control group who were not asked about the approximate speed of the cars reported seeing glass.

This showed that the verb in the question acted as post-event information which influenced the participants' recall of the accident. It changed their memory of the event rather than causing a response bias. The participants did not see any broken glass and the findings suggest that the verb used within the question changed their memory of the accident, even a week after seeing the film clip.

#### KEY TERM

**reconstructive hypothesis:** memory for an event when the information supplied after the event merges with the information obtained from witnessing the event

### CONCLUSION OF EXPERIMENT TWO

Loftus and Palmer argue that two kinds of information go into a person's memory of a complex event. The first is the information obtained from witnessing the event and the second is the other information supplied to us after the event – post-event information. As time elapses, the two sources of information may merge, making it difficult to know the source of some details. This creates one overall memory of the event; this is called the **reconstructive hypothesis**. Loftus and Palmer concluded that reconstructive memory exists. They also concluded that leading questions do influence eyewitness testimony.

**SKILLS**

TEAMWORK, COLLABORATION,  
SELF-REFLECTION, CONTINUOUS  
LEARNING

**ACTIVITY 1**

Test yourself and other students in your class on the details of Loftus and Palmers (1974) study. Ask questions such as:

- How many participants were tested in experiment one and two?
- How many video clips were used in experiment one and two?
- How many verbs were used on the questionnaire used in experiment one?
- How many conditions were involved in experiment two?
- What was the average estimated speed in the 'smashed' condition in experiment one?

Repeatedly testing yourself and others in your class will help you remember the finer detail of the study.

**KEY TERM****construct validity:**

the extent to which the researcher has actually measured the intended variable or underlying construct

**EVALUATION OF LOFTUS AND PALMER (1974)**

Both experiments were conducted in a laboratory and therefore had a high level of control. Specifically, the questions that were asked (except for verb change) and the film clips used were consistent for the groups. This allows for the study to be replicated in order to determine the reliability of the findings that recall is influenced by post-event information. By changing just the verb associated with speed, Loftus and Palmer (1974) can be more certain that the IV of the verb was what impacted on the speed estimates, increasing **construct validity** that they tested the effect of language on recall.

The critical question was randomly included among other questions within the questionnaire. This prevented the participants from guessing the aim of the study and displaying demand characteristics, which would have resulted in flawed results. Embedding the critical question among other questions minimises the likelihood that the responses given by the participants were due to the research methodology, rather than their genuine response to the question.

The experimenters knew the actual speed the cars were travelling for most films. This allowed them to assess whether the estimates were significantly affected by the actual speed of the cars. They found that it did not affect the estimates. This allowed them to say with certainty that it was the verb used and not the actual speed that had the effect on the estimates of speed given by participants.

The use of yes/no responses within experiment two produced quantitative data, as did the estimates of speed in both experiments. This meant there was no subjective interpretation of the data in either experiment, making the findings more objective. The results are therefore less likely to be the result of researcher bias, making the results more reliable.

It may, however, be difficult to accurately distinguish the speed of the cars from watching the film clips, particularly when the participants were students so are likely to have limited experience of car speeds. Limited experience in estimating speeds may have resulted in the students being more influenced by the verb used in the question than would have been the case if a different population had been included, with more experience of driving. The findings therefore may only represent the views of this specific population, rather than it being possible to generalise the findings to the wider population.

The participants are unlikely to have been under the same emotional strain as an eyewitness of a real accident would be, as they only watched film clips in a laboratory. This makes the validity questionable as they may have responded differently as a result. It cannot therefore be said with certainty that a real eyewitness would respond in the same way as those undertaking a research study in an artificial situation. As well as the type of question asked, many other factors could influence memory of a real-life event, including emotions, the environment in which it occurred,

etc. These are not considered in this study. As such, the study is somewhat reductionist, considering only one potential variable that may influence human memory.

**EXAM TIP**

Loftus and Palmer's research involves both experiments, so you must be able to describe experiment one and two in detail.

**WIDER ISSUES AND DEBATES****The use of psychological knowledge within society**

The Devlin Committee (1976) was set up to investigate the use of eyewitness testimony in court. It found that many people have been convicted of serious crimes by eyewitness testimony alone, and recommended against basing a conviction on a single eyewitness.

Loftus and Palmer's research into the influence of post-event information on eyewitness recall contributed to the development of the cognitive interview, a technique used by police interviewers when questioning eyewitnesses. The police and legal professionals are guided to minimise the use of leading questions in order to ensure an accurate account is obtained. This constitutes a marked change in policing techniques in the 20th century, and the cognitive interview is still used today.

**SKILLS  
ANALYSIS****ACTIVITY 2**

Copy out the table and add the correct verb used (bumped, smashed, hit, contacted, collided) in Loftus and Palmer's study next to the mean estimate of speed found.

Mean estimate of speed	Verb used in the critical question
40.8	
39.3	
38.1	
34.0	
31.8	

**BRADBURY AND WILLIAMS (2013) DIVERSITY AND CITIZEN PARTICIPATION:  
THE EFFECTS OF RACE ON JUROR DECISION-MAKING****LINK**

In-group and out-group bias was discussed earlier in this Topic (see page 122).

Race and crime has been extensively researched in criminological psychology. This includes whether certain races are over-represented in crime statistics and prisons and if certain races are treated differently at various stages in the criminal justice system, particularly how different races are perceived by jurors.

Specifically investigating the effect of defendant race on jury decision-making, Bradbury and Williams investigated in-group/out-group bias using verdicts from criminal cases across several states of America.

**AIM**

To examine whether the racial make-up of a jury affects its decision-making. To test the following two hypotheses:

Hypothesis ( $H_1$ ): Black defendants will be more likely to be convicted by juries composed of a higher number of white jurors.

Hypothesis ( $H_2$ ): Black defendants will be more likely to be convicted by juries composed of a higher number of Hispanic jurors.

### PROCEDURE

Secondary data was collected from an earlier study of real trials in four American states: Arizona, California, New York and Washington, DC, held between 2000 and 2001. The cases chosen for this study were ones in which there was a 'hung jury', where juries could not agree on whether the defendant was guilty or not. Data included demographic characteristics of the jury, jury selection and offence type. Only trials that included Black defendants were examined because they made up 60 per cent of the cases.

Dependent variable: Whether or not a trial resulted in a conviction (coded as 1 = conviction, 0 = no conviction/hung jury).

Independent variable: The racial make-up of the jury: percentage of Black, white and Hispanic jurors.

They included seven control variables to measure the strength of the prosecution case, to make sure that there was a sufficient case for the jury to decide on.

Control variables:

- quantity of evidence
- strength of the case
- length of the trial
- length of the jury deliberations
- presence of written instructions to the jury
- case type (violence or property offences)
- lawyer type (public or private).

### LINK

To refresh your understanding of variables, see Student Book 1, page 103.

### KEY TERM

**logistic regression:** a statistical analysis that examines the relationship between the dependent variable and the independent variables being investigated, and calculates the probability of them being related

In order to assess whether there was a significant relationship, the researchers undertook complex statistical analysis, including a **logistic regression**. The nature of this statistical test helped them to identify which juror characteristics may influence their decision-making, and the effect of the percentage of Black, white and Hispanic jurors on the likelihood of conviction.

### RESULTS

Bradbury and Williams' key findings were:

- Black defendants are less likely to be convicted by juries composed mostly of Black jurors (than Hispanic or white jurors).
- Juries comprising mostly white jurors (than Black or Hispanic jurors) are more likely to convict Black defendants. This finding is statistically significant at the  $p < .01$  level, so is highly significant.
- Juries composed of mostly Hispanic jurors (than white or Black jurors) were more likely to convict Black defendants, though this was only significant at  $p \leq 0.1$ , so the second hypothesis cannot be supported.
- Juries, regardless of their composition, were less likely to convict a Black defendant for a violent crime compared to a substance-related offence.
- Juries, regardless of their composition, were less likely to convict a Black defendant for a property offence compared to a substance-related offence, although this was only significant at  $p \leq 0.1$ .

## CONCLUSION

Diversity within the jury pool is likely to have an impact on the outcome of jury decision-making. Black defendants are more likely to be convicted if the percentage of other ethnicity jurors is higher than the percentage of Black jurors. The selection process of jury members can therefore bias the outcome of the trial.

The finding that Black defendants were more likely to be convicted of substance crimes raises the issue of whether the criminal justice system is tougher on Black defendants for substance-related offences generally.

## EVALUATION OF BRADBURY AND WILLIAMS (2013)

The data represented characteristics of actual jury trials, as opposed to mock juries. This therefore provides more valid data regarding actual jury decision-making than an experiment undertaken in a laboratory or a mock jury study. We can therefore consider the findings to be more ecologically valid than other research methodologies. However, as real trial data was used it is not possible to replicate the court case to see if the verdicts reached would be the same again. However, other research has shown similar findings to this study. Anwar et al. (2012) found that Black defendants were convicted 81 per cent of the time by white jurors, which supports the findings of Bradbury and Williams (2013) meaning that their results could be considered more reliable.

There were a number of control variables to ensure that they were truly investigating the racial composition of the jury rather than other factors, such as quantity of evidence presented in court and the type of crime committed. These are factors known to influence jury decision-making. This ensures a level of validity within the research, and the findings can be confidently applied to the area of race and jury decision-making. However, it is not possible to control for all variables in the research. Other factors that may have influenced the jury's decision may include their own personal experiences of crime and other personal biases and any pre-trial publicity that may have occurred. These may have had an unknown impact on the jury members which, due to it involving real-life trials, was not possible to control, despite attempts to control as many variables as possible.

As it is so rare to get data from actual trials, it is difficult to be sure the findings are representative of all trials. The findings may reflect an unknown uniqueness to the trial and the jury members that may or may not be applicable to all similar trials. The general absence of real-life research makes this uncertain. It also only represents trials that were conducted in America. As other countries have different judicial processes, it may not represent the experiences of defendants across the world. Furthermore, the cases focused only on Black defendants. The findings may therefore not be applicable to cases in which the defendant belongs to a different race. Further research is required into other ethnic groups before it is possible to determine whether the effect found within the current research is applicable across races.

## WIDER ISSUES AND DEBATES

### Social sensitive research

Because this study focuses on defendant and juror race it is considered socially sensitive because it could potentially reinforce stereotypical (false) views about certain ethnicities being more likely to be involved in crime, or engaging in specific crimes such as substance-related offences. These stereotypes may extend into the public domain and cause tension between different ethnic groups, or be used to label groups as more likely to engage in criminal activity. It could also be used to claim that certain ethnic groups are racist in their decision-making, which can have negative implications for the population which are being represented in this way.

The study used coding procedures to quantify the dependent variable and control variables, such as 'was the defendant charged with a violent crime (0 = no, 1 = yes)' and whether a defendant was given a guilty conviction (yes, no). This method of coding provides quantitative data which is more objective and less open to interpretation by the researchers. However, the dependent measure may have overlooked the fact that many trials are more complex as defendants could be charged with multiple crimes. They may have been convicted of some crimes and acquitted of others, perhaps more serious offences. This would have been overlooked in the study, so variations in the data may have been omitted.

An important application of this research is that it can help inform the way that juries are selected to ensure that a mix of different ethnicities are used to promote fairness in the legal process. However, in practice this may be more difficult and also not permitted. According to the Batson rule in the USA, the court is not allowed to use a peremptory challenge to exclude a jury member because of their race.

## SKILLS

### ANALYSIS, CRITICAL THINKING

## ACTIVITY 3

In the exam you may be asked questions about specific evaluation points of your classic and contemporary studies. To prepare for these, copy and complete the following table:

Issue	Loftus and Palmer (1974)	Bradbury and Williams (2013)
Validity		
Reliability		
Generalisability		
Objectivity/subjectivity		
Credibility		
Ethics		

## RUVA, MCEVOY AND BRYANT (2007) EFFECTS OF PRE-TRIAL PUBLICITY AND JURY DELIBERATION ON JURY BIAS AND SOURCE MEMORY ERRORS

### LINK

You studied pre-trial publicity as a factor affecting jury decision-making earlier in this Topic (see page 127).

Every defendant has a right to a fair trial and to be judged by an impartial jury and/or judge. In today's society there is ever-increasing access to information, through social media and electronic applications available on multiple personal devices. Research has demonstrated that access to media information about a defendant before a trial takes place can be a source of bias that may influence a juror's impression of the defendant. This means that a defendant may not receive a fair trial if a juror has been exposed to media content which is prejudicial.

The justice system has several strategies to deal with this potential source of juror bias in countries where juries are used. Some of these strategies, such as 'voir dire' and a judge's instruction to ignore media coverage, have been shown to be ineffective in reducing juror bias. Two further strategies – moving venue to a different area where potential jurors will not have been exposed to media coverage, and **bench trial** – have not been tested experimentally. However, these strategies are largely prohibitive because a defendant does not have a right to request them, and changing venues is rarely done. These factors mean that defendants may undergo a trial which may not be fair if jury members have been exposed to prejudicial media.

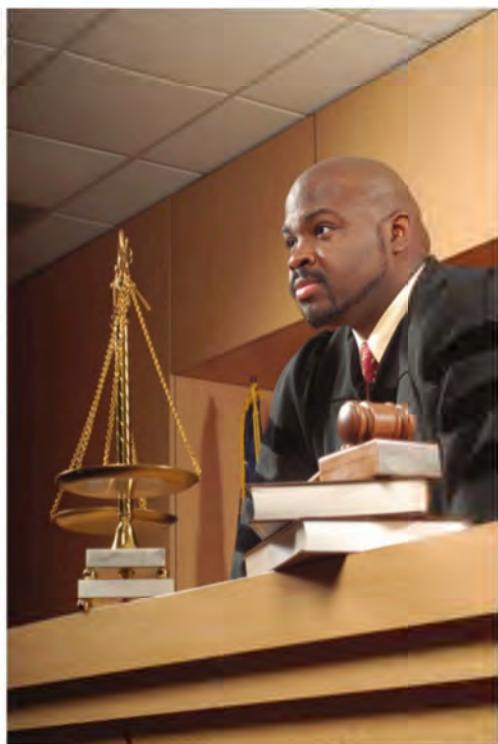
Some countries have abolished juries altogether, such as Singapore, South Africa and India. Other countries use juries for only a select number of offences.

### KEY TERM

**bench trial:** trial by judge only, no jury

**KEY TERM**

**confirmation bias:** only paying attention to information which is consistent with previously formed impressions



▲ The role of a judge is to preside over the trial and instruct jurors to ensure that a defendant receives a fair trial

**LINK**

The influence of post-event information was discussed on page 113.

One way that prejudicial media may bias a juror's verdict is through a juror only paying attention to trial evidence that is consistent with the media coverage they have been exposed to. This is known as **confirmation bias**. This means that if a juror has formed a negative impression of the defendant, they will selectively attend to negative information about the defendant presented during the trial.

Another way that prejudicial media may have an influence is by changing the memory of a trial by introducing information that was not experienced in the trial, and therefore affects the jury's verdict. Earlier in this topic we discussed how post-event information can influence memory because it exposes a witness to information which becomes incorporated into their original memory.

The reverse effect is also true. Information before an event can also be incorporated into a memory. This may be due to a source monitoring error, where a juror is unable to distinguish between information they were exposed to from the media, and information they received during the trial.

Courts generally believe that these memory errors are balanced out when jurors collaborate to reach a group decision. This belief has been supported by psychological research; however, there is also research to suggest that collaborating groups are more susceptible to memory errors.

**AIM**

Christine Ruva, Cathy McEvoy and Judith Becker Bryant aimed to investigate the impact of pre-trial publicity on jury decision-making, in particular whether jurors can discriminate between pre-trial publicity information and the information presented in court. They also aimed to investigate the effects of group collaboration of juror decision-making by comparing group verdicts against individual (nominal juror) verdicts.

To investigate the effects of negative pre-trial publicity on jury decision-making, participants read either negative pre-trial publicity or unrelated news articles. They then acted as jurors, coming to either an individual or group verdict.

Between four and seven days later the participants viewed a video recording of a criminal trial. Half of the participants collaborated to come to a group verdict (collaborating juror), and the other half came to a verdict on their own (nominal juror). Following this, all participants were given a source monitoring questionnaire to test for memory of facts from those which occurred only in the trial or only in the pre-trial publicity, or neither. The researchers expected that jurors exposed to the negative pre-trial publicity would be more likely to find the defendant guilty. It was also expected that jurors exposed to negative pre-trial publicity would misattribute information from the pre-trial publicity to the trial. The researchers also predicted that the collaborating jurors would be more likely to give a guilty verdict and longer sentence than the nominal jurors, and the non-exposure jurors least likely. They also thought that the collaborating jurors would be more confident in their recall of the facts from the pre-trial publicity and trial.

**THINKING LIKE A PSYCHOLOGIST**

In this chapter you have learned that there are influences on jury decision-making which are irrelevant to the trial, resulting in juries becoming impartial and potentially discriminatory. Using your knowledge of these influences, consider ways in which trials might be conducted to eliminate these potential sources of bias. You might wish to consider practical changes within the courtroom and how juror deliberation is conducted.

## SAMPLE

The sample consisted of 558 university students aged between 18 and 52 years (mean age 20.6) who received course credit for their participation in the research. 128 were male and 430 were female. There was a range of ethnicities, the majority being white ( $n = 354$ ). Six of the participants had stated that they were jurors in a criminal trial previously.

## PROCEDURE

Participants were divided into conditions:

- 276 were in the collaborating juror condition exposed to the negative pre-trial publicity, then randomly assigned to the collaborative ( $n = 138$ ) or nominal juror ( $n = 138$ ) group at the beginning of phase 2
- 140 were in the nominal juror condition, exposed to negative pre-trial publicity
- 142 were in the nominal juror condition, exposed to unrelated crime articles, and referred to as non-exposed.

There were 25 groups in each condition. The experiment consisted of two phases that were around four to seven days apart. The first phase was when participants were exposed to the pre-trial publicity or unrelated article, and the second phase was when they watched the criminal trial.

### Phase one

Participants were tested in groups of 16 or fewer participants in each session who were all either exposed to negative pre-trial publicity or unrelated crime articles. They were informed that it was a two-phase study examining the stability of emotional reactions to different sources of information, which was a cover story to prevent them guessing that the study was about jury decision-making. They would return the following week for the second phase. All participants received a packet containing a personality test and a questionnaire asking them about their age, biological sex and ethnicity. They then received packets containing either the negative pre-trial publicity or the unrelated crime articles, and were asked to read through all of the articles thoughtfully.

The negative publicity consisted of edited news articles about crimes from the *Morning Call* online newspaper, which published a large number of articles about the NJ v Bias murder investigation and trial. These news stories contained information about the case, such as the victim and description of the crime. They also contained information that was not presented during the actual trial which could have an effect on juror decision-making.

The non-exposed participants received packets containing news articles about an unrelated crime involving a woman being accused of embezzling child support funds.

There were nine negative pre-trial publicity articles and unrelated crime articles matched to around the same length, comprising ten pages of text in total.

After reading the articles, participants were given 15 minutes to recall as much as possible about the articles they had read and to indicate their emotional response to the articles.

Facts presented in the negative pre-trial publicity articles:

- Daniel Bias had a bad temper
- Lise Bias's body was found in the doorway of the couple's bedroom
- Lise Bias did not know how to use guns and disliked them
- Daniel had wanted Lise to quit her job and start a family.

### Phase two

Between four and seven days after the first phase, participants returned and watched a 30-minute video recording of the trial on a television. Participants in each session were informed that they would watch the video together and come to a group decision about the guilt of the defendant. Similar to a real trial, they were informed that they should not use any prior information they may have read about the trial to make decisions about the guilt of the defendant, but should only use the evidence presented during the trial.

Facts presented only in the trial:

- Detective John Flynn failed to do any fingerprint testing on the weapon that killed Lise Bias
- Daniel Bias had his hand on his wife's hand when the weapon went off
- Lise Bias was standing by the mirror when the weapon went off
- On the day of her death, Daniel and Lise had an argument about a piece of jewellery that Lise had seen earlier that day.

### KEY TERM

**source monitoring test:**  
a test/questionnaire designed to see whether a person can accurately attribute the original source of information

The recording was of a real trial (NJ v Bias) of a man accused of murdering his wife. The accused was pleading not guilty and claiming that his wife had accidentally killed herself. The guilt of the accused man was not clear.

Following the trial, participants were presented with a verdict form and asked to indicate a verdict of 'guilty' or 'not guilty', a rating of guilt on a scale of 1 to 7 (1 being 'I'm certain that he is not guilty' and 7 being 'I'm certain that he is guilty'). Participants were also asked, 'If you found the defendant guilty, how many years should he be sentenced to New Jersey State Prison? Sentencing guidelines for the State of New Jersey give a permitted range between 30 and 45 years'. Participants indicated their sentence choice on a scale from 30 to 45 years.

Once the data was collected, jurors assigned to the nominal juror condition were taken to a different room, leaving the collaborating jurors together. The collaborating jurors had 30 minutes to deliberate and reach a unanimous group verdict about the defendant; if a decision was not reached it would constitute a 'hung jury' and mistrial. The verdict form had a space for the group verdict ('guilty, not guilty or hung'), rating of guilt and length of sentence.

Participants in the nominal juror condition were given 15 minutes to recall facts about the trial and then 10 minutes to indicate which facts had the greatest influence on their verdict. They were then given the same verdict form as the collaborating jurors (without the option of a hung jury).

All participants were then asked to complete a **source monitoring test** of facts from the articles and trial and to rate the confidence of each answer. Following this, participants gave an individual verdict, a rating of guilt and length of sentence for a final time. They were also asked to rate the credibility of the defendant on a series of questions, such as 'How honest did the defendant appear to be?'.

A debrief questionnaire was given to all participants, including a question asking whether they believed the cover story given in phase one. Participants' guilty and not guilty verdicts are recorded in the table below.

### RESULTS

Table 12.3 shows the percentage of guilty and not guilty verdicts in the exposed and non-exposed, collaborative and nominal groups before deliberation/recall of the trial.

TABLE 12.3: RESULTS FOR GUILTY AND NOT GUILTY VERDICTS

Pre-deliberation verdicts	Not guilty	Guilty
Collaborative group exposed to negative pre-trial publicity	27%	73%
Collaborative group not exposed	59%	41%
Nominal group exposed to negative pre-trial publicity	35%	65%
Nominal group not exposed	63%	37%

As predicted, the groups exposed to negative pre-trial publicity were significantly more likely to give a guilty verdict than the groups who read the unrelated crime articles. They also gave significantly higher ratings of guilt and longer sentences if they voted guilty. These findings also held true in the post-deliberation measures and after the source monitoring test.

Table 12.4 shows the mean scores for guilty verdicts, confidence in the verdict and length of prison sentence in each condition immediately after seeing the trial (pre-deliberation), after deliberating or individually recalling the trial (post-deliberation) and after the source monitoring test.

TABLE 12.4: SCORES FOR VERDICTS, CONFIDENCE AND SENTENCE LENGTH: PRE-DELIBERATION POST-DELIBERATION AND POST-SOURCE MONITORING

Group	Pre-deliberation		Post-deliberation		Post-source monitoring	
	Exposed	Non-exposed	Exposed	Non-exposed	Exposed	Non-exposed
Verdicts of 'guilty'						
Collaborating	2.46	1.38	2.22	1.72	2.25	1.67
Nominal	2.30	1.74	2.27	1.71	2.27	1.71
Confidence in verdict						
Collaborating	5.29	4.08	5.63	3.96	5.45	4.04
Nominal	5.05	3.89	5.07	3.99	5.09	3.99
Length of sentence (30–45 years)						
Collaborating	40.71	37.74	40.64	36.91	41.02	35.80
Nominal	40.37	37.69	40.74	38.10	40.74	38.14

An interesting finding was that participants tended to give fewer guilty verdicts after the source monitoring test than pre-deliberation in the collaborating juror condition.

Jurors exposed to negative pre-trial publicity were more likely to make source monitoring errors compared to jurors who read the unrelated article. Jurors in the non-exposed condition identified significantly more of the trial items as coming from the trial, so made fewer source errors. This means that exposed jurors were more likely to recall information that was only found in the articles to either the trial or both the trial and articles. Jurors in collaborating groups were more accurate in their source monitoring responses than nominal jurors, and more confident in both accurate and inaccurate source monitoring judgments for the trial items.

In the final measure of defendant credibility, it was found that jurors exposed to negative pre-trial publicity tended to rate the defendant as less credible (mean = 40.83) than jurors in the non-exposed conditions (mean = 49.57). There was also an effect of collaboration on perceived credibility: the collaborating jurors perceived the defendant as less credible than the nominal jurors.

Further analysis of interactions between exposure to negative pre-trial publicity, source monitoring errors and guilty verdicts found that there was a relationship, so the effect of pre-trial publicity on ratings of guilt was mediated by making source monitoring errors. This was further linked to the perceived credibility of the defendant.

## CONCLUSIONS

Negative pre-trial publicity can bias a jury to believing that a defendant is more guilty (as measured by guilty verdicts, ratings of guilt and sentence length) and less credible than jurors not exposed to negative publicity.

Pre-deliberation and post-source monitoring measures of guilt indicated a shift in leniency. This move towards being more lenient after they deliberated may be because the deliberation process heightened the need for considering the law's 'reasonable doubt' standard, or that convicting the defendant was seen as being more serious than acquitting them. Whatever the reason, participants erred towards being more lenient following their discussion of the trial.

Collaborating jurors were more accurate in identifying publicity and trial items than nominals, which suggests that there is a benefit in using juries because they are able to catch other jurors' memory errors. However, exposure to negative pre-trial publicity led to exposed jurors misattributing the source of information from the negative pre-trial publicity to coming from the trial evidence, and were confident doing so. Although this may be unsurprising given that the pre-trial publicity contained specific facts about the case compared to the unrelated crime articles.

The interaction between source monitoring errors, negative pre-trial publicity and guilty verdicts suggests that media coverage may serve to alter the memory of a trial because media coverage is mistaken for evidence presented in court, which in turn leads to a negative impression of a defendant.

### EVALUATION OF RUVA, MCEVOY AND BRYANT (2007)

Clearly this research has significant practical application in real life. If we know that jury decision-making is biased by exposure to negative pre-trial publicity certain measures need to be taken, over and above instructing the jury members to ignore what media they have read before to the trial. This is particularly important for high profile cases, which are likely to attract a lot of media attention. In these cases there should be a consideration of moving the trial to a location where there is less publicity about the defendant or using a bench trial. This would reduce the chance of a defendant receiving an unfair trial.

One strength of the study was that it used a real trial. Mock jury research can lack realism because participants are presented with a fictional trial which may be summarised in a document. Ruva et al.'s participants watched real court proceedings about a real murder case so the study has greater ecological validity than much research in this area. However, the collaborative jurors were only given 30 minutes to deliberate about the case and reach a unanimous verdict. This would not happen in a real trial as jurors are permitted to deliberate for as long as reasonable to reach a decision. This means that the verdicts made by collaborating jurors may not reflect verdicts given sufficient time. While a real trial was used, the participants did not undergo the same processes that a real jury would be subject to, such as receiving a summons, undergoing juror selection, being sworn in and listening to the judge's instructions. The participants did not experience the trial in a real courtroom or have to determine the fate of a real defendant. Had they known that their verdict would be used to actually convict a defendant, they may have been more lenient.

The collaborating jurors deliberated in groups of only four to six jury members. A real jury consists of 12 jury members. Smaller groups mean less opportunity for dissenting opinions to be heard as individuals with dissenting views have less support from others in smaller groups. This can result in biased opinions being unchallenged. This may explain why collaborating jurors had a more negative impression of the defendant than nominal jurors. However, there was no significant effect of collaboration on verdicts of guilt. This raises some important questions about the necessity of a 12-person jury. Selecting 12 jury members is costly and can be a serious inconvenience to jurors financially and in terms of family obligations, particularly for lengthy trials. Large groups are also prone to **social loafing**.

#### KEY TERM

**social loafing:** in large groups there is a tendency for some members to avoid participating

The study may also underestimate the influence of pre-trial publicity in real life. Given that the participants were instructed to dismiss specific news articles that they had read a few days before phase two, the participants would have been able to discriminate much better between these articles and the witnessed trial. In real life jurors may have been exposed to various kinds of media coverage, over many weeks or months, so would be less able to discriminate between the media coverage and trial information. This means that real jurors could potentially make more source monitoring errors and be more biased to making a guilty verdict than the participants of this study.

The researchers initially deceived the participants about the true nature of the experiment, suggesting that they were undertaking a study on the stability of emotional responses. This cover story was necessary to ensure that participants did not guess that the research was about jury decision-making. The majority of participants believed the cover story from phase one (83 per cent of the negative pre-trial publicity condition and 85 per cent of the non-exposed condition). However, when asked specifically whether they suspected it was a study of jury decision-making, 35 per cent of the exposed jurors suspected – compared to only 18 per cent of the non-exposed jurors. However, analysis of the data revealed that participants who were suspicious did not respond differently from those who were not suspicious.

A strength of the study was that it used standardised procedures and controls. The participants were exposed to the same pre-trial publicity or unrelated crime articles which were matched in length, randomly allocated to the collaborating or nominal juror condition, and witnessed the same trial recording. This means that the study can be re-tested to see if negative pre-trial publicity had the same effect on other participants' verdicts. It also used objective measures of guilt, such as a 'guilty' or 'not guilty' verdict, the ratings of guilt on a scale of 1–7, and the length of sentence they would give. These dependent measures are not open to opinion, so the data collected can be considered scientific.

A significant problem with the study was that it was only tested on students attending university in the state of Florida, USA, with the majority of the participants being white. This is not a representative sample of potential jurors, who are typically selected randomly from the electoral role. It also fails to represent jurors from other states in America and other countries. Therefore we cannot assume that all jury members would be prejudiced by negative media coverage of a trial.

#### EXAM TIP

Your optional contemporary studies are: Ruva, McEvoy and Bryant (2007) Effects of pre-trial publicity and jury deliberation on jury bias and source memory errors, and Valentine and Mesout (2009) Eyewitness identification under stress in the London Dungeon. You will only learn one of these. In the exam you cannot be asked specific questions about the details of your chosen contemporary study so you should learn information to answer the following types of exam questions:

- Describe the aim of your chosen contemporary study.
- Describe the sample used in your chosen contemporary study.
- Describe the procedure of your chosen contemporary study.
- Describe the results and conclusions of your chosen contemporary study.
- Explain the strengths and weakness of your chosen contemporary study.

## EYEWITNESS IDENTIFICATION UNDER STRESS IN THE LONDON DUNGEON (VALENTINE AND MESOUT, 2009)

Tim Valentine has undertaken research into witness identifications and factors affecting the accuracy of such identifications. In his research with Jan Mesout in 2009, stress was the variable under investigation to see if it would have an effect on eyewitness identification. They wanted to overcome some of the limitations of laboratory research in this area by looking at eyewitness identification in a real-life scenario, in an attempt to clarify the effect of stress on witnesses. In particular, they wanted to look at situations in which the witness was not aware that their testimony would be tested.

They also wanted to test the catastrophe model of memory performance; that high physiological arousal/anxiety can induce a marked impairment to eyewitness recall and identification.



The London Dungeon is a tourist attraction where visitors travel through a series of rooms which depict London at various points in history, such as The Great Fire of London. The rooms have actors who act out each historical theme

### AIM

To test the hypothesis that high arousal (high levels of stress) can reduce the ability of an eyewitness to recall information and identify a perpetrator. Specifically, to test whether visitors to the London Dungeons could describe and identify someone they encountered in the Horror Labyrinth.

### PROCEDURE

The study has two parts: one part was to validate a questionnaire which they intended to use to measure the amount of anxiety caused by visiting the Horror Labyrinth, and the second part was to test eyewitness recall of a 'scary person' experienced during the tour of the labyrinth.

#### Validation of State Anxiety Inventory

A pretest was conducted to validate that visiting the London Dungeon caused a significant elevation in heart rate, to show that it was a stressful event. During this initial test, 20 employees

of a London department store wore a Polax Accurex wireless heart rate monitor strapped around their chest. Initial baseline heart rate was recorded and then monitored as they walked around the dungeons. When they completed their visit the participants were given a State and Trait Anxiety Inventory to see how they felt during their visit. The data from 18 participants was used (2 had baseline heart rates that were outliers) and they found that the average baseline heart rate was 74.7bpm compared to 86.9bpm in the Horror Labyrinth. This meant that their heart rate was reliably higher during the visit. The participants' mean state anxiety score was 43.2, and correlated with their change in heart rate which validated that the State Anxiety Inventory was a reliable measure of stress/anxiety.

### **Eyewitness study**

Visitors to the London Dungeon were offered a reduction in the admission price to complete some questionnaires after their visit. A total of 56 participants completed the questionnaires; 29 were female and 27 were male, with an average age of 31.0 years.

Each participant walked through the Horror Labyrinth with around 30 other visitors for approximately 7 minutes. The Horror Labyrinth is a maze designed to disorientate visitors; it is dark and various scary sounds are played on a recording. There were several 'scares' in the labyrinth including an actor dressed up in a dark robe who wore make-up to appear very pale, with wounds or scars on their face. This actor was known as the 'scary person'. They would step out in front of the participant and prevent them from passing by blocking their way. All participants went around the dungeon in the same direction.

#### **KEY TERM**

**trait anxiety:** a measurable individual difference/personality trait in which there is a tendency to worry about yourself and others regardless of the actual circumstances; contrasts with state anxiety which is caused by situational factors rather than being a consistent/fixed dispositional factor

After they completed the tour, the purpose of the experiment was explained and informed consent was obtained. They were given the opportunity to withdraw at any stage. The participants completed a questionnaire that assessed how they felt in the dungeon (state anxiety). They were then asked to answer questions that related more to their general experience of emotions (**trait anxiety**). A separate questionnaire asked for free recall of a description of the 'scary person' and a cued recall asking about specific details (e.g. gender, age, height, hair colour). They were advised not to guess details if they could not remember.

Finally, participants were shown a nine-person photograph line-up. The picture of the 'scary person' was placed in a randomly selected position for each line-up alongside eight other similar-looking actors. Each participant was instructed that 'the person you saw in the labyrinth may or may not be in the line-up', and were guided to say if they could not identify the person. Participants then rated their confidence in their decision on a scale of 0–100 per cent confidence.

### **RESULTS**

Females reported feeling a higher state of anxiety in the dungeon than males (a score of 52.8 versus 45.3 respectively). The mean state anxiety score was 49.0. There was no difference in the trait anxiety between males and females. The mean trait anxiety score was 36.8, and there was no difference in trait anxiety between males and females. Participants who reported lower state anxiety recalled more correct information about the scary person. Only 17 per cent of those who scored above the median on the state anxiety scale (a score of 52 or above) correctly identified the person they saw from a nine-person culprit-present photograph line-up. In contrast, 75 per cent of eyewitnesses who scored below the median correctly identified the 'culprit'. Those who reported higher state anxiety were less likely to correctly identify the scary person in the photo line-up. Males made more correct identifications than females. The number of participants who were able to identify the scary actor in high and low anxiety states are recorded in the table below.

Table 12.5 shows the accurate, inaccurate or no identification in the identification of the 'scary person' from the nine-person line-up for those with low and high state anxiety.

TABLE 12.5: IDENTIFICATION OF THE 'SCARY PERSON' FOR LOW AND HIGH STATE ANXIETY

Identification of actor	Low state anxiety	High state anxiety
Accurate	21	5
Inaccurate	6	15
No identification	1	8

Those who correctly identified the correct photograph of the 'scary person' showed a higher level of confidence in their identification. The table below shows the difference in identification accuracy and gender.

There was also an association between biological sex, anxiety and identification accuracy. Table 12.6 shows identification accuracy between males and females.

TABLE 12.6: IDENTIFICATION ACCURACY BETWEEN MALES AND FEMALES

Identification of actor	Male	Female
Accurate	19	7
Inaccurate	5	16
No identification	5	4

Males were more able to accurately identify the correct 'scary person' than female witnesses. These gender differences were also present when the effect of state anxiety was accounted for separately.

## CONCLUSIONS

Females show higher levels of anxiety in stressful situations. Being highly anxious reduces the accuracy of eyewitnesses in identifying perpetrators. It suggests that when considering the accuracy of eyewitnesses, experts should take into account the emotional state of the witness at the time of the event. The implication for sex differences in state anxiety and identification accuracy suggests that females may be particularly vulnerable to the effect of stress when witnessing crimes or being a victim of crime.

Overall, the failure of witnesses to describe and identify a perpetrator under high state anxiety provides support for the catastrophe model of memory performance under anxiety.

## SKILLS

CONTINUOUS LEARNING, CRITICAL THINKING

## ACTIVITY 4

Copy out the following tables and match the correct conclusion to each study.

Conclusion	Study
1. Post-event information can contaminate memory	a) Ruva, McEvoy and Bryant (2007)
2. White jurors are more likely to convict Black defendants	b) Loftus and Palmer (1974)
3. Negative pre-trial publicity can cause negative judgements of a defendant	c) Valentine and Mesout (2009)
4. Anxiety can impair eyewitness recall and identification	d) Bradbury and Williams (2013)

### EVALUATION OF VALENTINE AND MESOUT (2009)

The study is a field experiment. Although it is not a typical daily experience to be scared by an actor in a scary outfit, its natural setting and the subsequent findings of the study are more representative of real eyewitnesses than those conducted in a laboratory, in which participants may be able to guess the aims and respond in a way in which they think the researcher wants them to. They were also not fully informed about having to recall the 'scary person' afterwards. This reinforces the ecological validity of the study because a genuine witness to an event would also not be aware that they would have to identify a perpetrator of a crime.

There were good controls among the participants as it was the same actor for each set of visitors, acting in the same manner, on the same tour. The London Dungeon is a visitor attraction where each tour group experiences the same exhibits/rooms in the same order and for the same period of time. Each room has an actor scripted to explain a part of London's history along the route. This provides a high level of replicability to the study, if conducted again in a similar setting. It allows the possibility of replicating the study to re-test whether eyewitness recall is impaired by anxiety.

The researchers undertook an additional process of validating the questionnaires used on a set of office workers to make sure they were reliable in measuring anxiety. This provides assurances of the validity of the study, in that the researchers were obtaining information about anxiety levels rather than any other emotion when asking participants to complete the questionnaires.

The research takes into account individual differences among the participants rather than comparing a stressful situation with a control condition. For example, obtaining information about trait anxiety among the participants provided a baseline measure against which comparisons could be made to the state anxiety experienced within the Dungeon.

The participants had all chosen to attend a scary place (London Dungeon). Therefore they may have a preference for scary entertainment and may be affected by scary events in a different way from those who do not like such activities. This limits the generalisability of the findings to the wider population as the reactions of the participants may be influenced by their preference for scary situations. Their reactions may not therefore be the same as those who do not choose to visit such environments.

This study has important implications for real life. During trials of real-life crimes, we should be cautious in trusting accounts from witnesses who underwent significant anxiety or trauma during the crime. Police should be informed that anxiety can impair recall and identification and this should be a consideration when assessing the admissibility of eyewitness testimony for a trial. This should also be a consideration when police use line-up identification techniques. Valentine and Mesout told the participants that the 'scary person' may not be present in the photographs they were shown, so it is not enough for the police to use this instruction to ensure that witnesses do not select the wrong suspect.

#### CHECKPOINT

1. Which two studies described in this chapter investigated eyewitness testimony?
2. Which two studies in this chapter investigated jury decision-making?
3. Which study used 56 visitors to the London Dungeon who volunteered to complete a questionnaire after their visit to receive a reduced entrance fee?
4. Which study used 558 university students aged between 18 and 52 who received extra course credit for participating, the majority were white?
5. Which study gathered secondary data from an earlier study of real trials in four American states: Arizona, California, New York and Washington, DC, held between 2000 and 2001?
6. Which study used 45 students in experiment one and 150 students in experiment two?
7. Which study can be said to have the best ecological validity?

**SKILLS**ANALYSIS, CRITICAL THINKING,  
REASONING**EXAM PRACTICE**

- 1. a)** Identify the variable in Loftus and Palmer's (1974) reconstruction of an automobile destruction experiment. (2 marks)
- b)** Identify the dependent variable in Loftus and Palmer's (1974) reconstruction of an automobile destruction experiment. (1 mark)
- 2.** Explain one ethical issue that should be considered when researching factors that influence eyewitness memory. (2 marks)
- 3.** In criminological psychology, you will have learned about the following classic study in detail: Loftus and Palmer (1974) Reconstruction of an automobile destruction: An example of the interaction between language and memory. Assess whether this study can be applied to eyewitness memory in real-life situations. (8 marks)

# CHAPTER 13 METHODS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe and evaluate experiments as used in the study of eye witness memory
- describe and evaluate mock jury research as a method for studying jury decision-making
- be aware of the British Psychological Society (BPS) Code of Ethics and Conduct (2009) and risk management ethical guidelines when carrying out research in psychology and evaluating research in criminological psychology, including issues of reliability, validity, generalisability, credibility, objectivity, subjectivity, ethics and practical application of findings
- describe risk assessment used in criminological psychology.

## GETTING STARTED

Over your psychology course as a whole, you will have gained a good understanding of research methods. Imagine that you have been commissioned to undertake research into defendant gender on jury decision-making. It has been noted that women are less likely to be convicted of an offence compared to men. You are asked to devise an experiment to investigate whether mock jurors are more likely to find a woman less guilty of the same offence as a man. Describe how you would go about planning your research using an experiment. Consider the following questions:

- What sample of participants would you use?
- What sampling method would you choose?
- What would be your independent and dependent variables?
- What control measures would you take?
- Which experimental design would you use?
- How would you go about designing the procedure of your experiment?
- How would you analyse your results?

Before you read about research methods as they are used in criminological psychology you should make sure to go back through the methods and data analysis you studied during units 1 and 2. Any of these can be used in the context of criminological research, including ethical issues and risk management.

## LINKS

To refresh your understanding of learning and research methods, revisit these pages in Student Book 1:

- Social psychology (Chapter 4, page 36 and Chapter 5, page 45)
- Cognitive psychology (Chapter 11, page 101 and Chapter 12, page 112)
- Biological psychology (Chapter 17, page 185)
- Learning theories (Chapter 23, page 257)

## EXPERIMENTS AS THEY ARE USED IN CRIMINOLOGICAL PSYCHOLOGY

Laboratory experiments and field experiments can be used when undertaking research in the area of criminological psychology. Many of the guiding principles for undertaking any psychological research apply when researching criminological topics. There are also additional ethical factors to consider when researching vulnerable populations, such as offenders or witnesses to potentially traumatic situations.

### THINKING LIKE A PSYCHOLOGIST

Prisoners are often referred to as a vulnerable population in psychological research, although some would argue that they should not be regarded as vulnerable because of the crimes they have committed. This is a controversy that needs careful consideration. Consider why offenders might be considered vulnerable because of the circumstances of their offending and their position within prison. Can you also identify which offenders are more vulnerable than others?

### LABORATORY EXPERIMENTS

Laboratory experiments are often used within this area of psychology, particularly in relation to eyewitness testimony. It is illegal to test real witnesses as it may bias their testimony, so participant witnesses are tested in a simulated context, such as watching films in a laboratory setting.

#### LINK

You studied laboratory experiments in Student Book 1, see page 101.

A laboratory experiment is conducted in an artificial environment, one that is constructed by the experimenter in an unnatural setting. It involves a researcher manipulating the independent variable (IV) and measuring the dependent variable (DV). Within criminological psychology, the IV is manipulated to investigate the effect of a factor such as weapon presence or leading question types. The DV is then the testimony that is provided, or the witness recall. This may be undertaken in a laboratory experiment by watching a film.

#### LINK

For more information on independent variables and dependent variables, see Student Book 1, page 103.

The studies of Elizabeth Loftus and others used laboratory experiments and included a number of key steps.

1. Gathering participants to take part in a study.
2. Showing them a film or photographs of an incident or a potential suspect.
3. Asking them to recall what they saw as a test of memory.

#### LINK

You learned about the studies of Elizabeth Loftus et al. page 145.

The study will introduce one or more IVs. This may involve varying the characteristics of the participants selected at step 1, for example age or gender. In step 2, participants may see different films/photographs, offences or suspects. At step 3, researchers may investigate the influence of post-event information by delaying the time at which the participants recall what they saw or how they recall the information.

## EVALUATION OF LABORATORY EXPERIMENTS AS THEY ARE USED IN CRIMINOLOGICAL PSYCHOLOGY

As laboratory experiments use a standardised procedure, it is easier to replicate a laboratory experiment. They allow for precise control of extraneous and independent variables, and for events to be directly manipulated, which could not be achieved in a real-life witnessed event. This allows a cause-and-effect relationship to be established so that it is possible to say with greater certainty which factors influence the accuracy of an eyewitness. This would not be possible within a field experiment, where there are likely to be many variables – all having a potential effect on the witness.

The artificiality of the setting may produce unnatural behaviour that does not reflect real life, that is, having low ecological validity. In Loftus' studies in the 1970s, participants watch a film clip of a car accident and are then asked questions about it. Participants are therefore expecting to see something on the clip and are more likely to be paying attention than an individual might be in the street prior to an accident occurring that they are not expecting. This means it would not be possible to generalise the findings to a real-life setting as the results from the laboratory may not reflect the findings if the research had involved a real accident. Validity is also reduced within laboratory experiments as the participants are less likely to experience stress by watching a film clip than a real accident. They will not be interviewed by the police and are unlikely to speak to others within the experiment about what they have seen, thereby minimising additional influencing variables.

### WIDER ISSUES AND DEBATES

#### Reductionism

Reductionism is when psychology explains complex behaviour as being caused by a single factor. When complex behaviour is reduced to a single isolated variable for the purpose of being tested it is referred to as experimental reductionism. Laboratory experiments tend to adopt this approach as they isolate specific variables to determine their impact upon a single dependent variable. For example, Ruva, McEvoy and Bryant (2007) isolated the nature of pre-trial publicity to determine whether this affected the likelihood of a jury determining whether a defendant was guilty or not. Laboratory experiments are useful in allowing researchers to isolate variables and establish cause and effect relationships, but they do not explore other factors which could also have a role to play in influencing behaviour. In the example of Ruva et al. (2007) they failed to research the many other variables which impact on jury decision-making in order to determine the specific impact of pre-trial publicity. Exploring single variables cannot tell us anything about these variables which are influenced by other mediating factors. Therefore, laboratory experiments can often give an incomplete explanation of a behaviour being studied.

#### EXAM TIP

Laboratory and field experiments are described in this chapter, however in the exam you could be asked to apply your knowledge of any research method to criminological psychology. You also need to be able to analyse data using graphs and statistical tests.

Laboratory experiments often involve showing participants clips of crimes that would be unethical for them to experience in real life. Watching a film clip of a car accident is less distressing than witnessing a real one, but may still cause upset if a participant has previous experience of a similar accident themselves. In this case, they are given the right to withdraw.

## FIELD EXPERIMENTS AS THEY ARE USED IN CRIMINOLOGICAL PSYCHOLOGY

Field experiments are similar to laboratory experiments as they both have an IV and a DV. The main difference is that a field experiment is conducted in a more natural setting. The experiment itself is, however, still artificially constructed but it takes place in a setting where the phenomenon being studied would naturally occur. A researcher conducting a field experiment would attempt to realistically recreate an environment in which a particular situation is likely to occur, for example a car accident in a high street. A field experiment would follow the same

#### LINK

For more information about field experiments please see Student Book 1, page 109.

three steps as a laboratory experiment, but at step 2 the participants will witness a simulated crime/event or an actor playing the role of an offender.

**LINK**

You learned about Valentine and Mesout's (2009) study on page 159.

**EXAM TIP**

Field experiments should not be confused with 'natural experiments'. These are experiments in which the IV occurs naturally and so the researcher does not have to manipulate the IV.

Valentine and Mesout's London Dungeon (2009) experiment involving real visitors to the London Dungeon is an example of a field experiment. It is within its natural setting (the dungeons) to assess the effect of stress on memory, but visitors would not normally be asked to complete questionnaires on their experience or asked to identify individuals who they saw within the London Dungeon.

### EVALUATION OF FIELD EXPERIMENTS AS THEY ARE USED IN CRIMINOLOGICAL PSYCHOLOGY

Field experiments are more difficult to control than laboratory experiments because many situational variables may occur in a natural setting, such as distractions from other witnesses to an event. This makes it unlikely that field experiments can be replicated exactly as the extraneous variables may affect the findings, leading to inconsistent results and low reliability. It is possible that some field experiments can create a controlled environment in which to conduct the study. For example, a field experiment testing witness recall of a bank robbery may be able to control situational variables because it is set up in a bank.

Behaviour displayed by participants in a field experiment is more likely to reflect real life as participants are essentially experiencing the conditions of a real witness. They are more likely to experience stress or anxiety at what they have seen and discuss it with other witnesses, and are less likely to be forewarned to recall a situation than in a laboratory experiment. This, therefore, increases the ecological validity of the study and allows the findings to be considered representative of a real situation for an eyewitness.

As participant witnesses may be unaware they are participating in a psychological study conducted in the field, demand characteristics are minimised. This makes it more likely that the responses or reactions they give within the study are genuine and indicative of real-life witnesses. This allows the findings of such studies to be relied on more than if there were concerns about response bias from participants.

In field experiments participants display more genuine behaviour but may become distressed



Within field experiments, it is important to protect the participant witnesses as they are experiencing what they believe to be a real-life incident. As such, they are more likely to experience distress than in a laboratory experiment. A researcher will need to weigh up the nature of the incident they are intending to stage to make sure it does not create excessive distress, in order to maintain ethical principles.

## MOCK JURY STUDIES AS A METHOD FOR STUDYING JURY DECISION-MAKING

The mock jury method is used because it is not permissible to study genuine jurors as they sit through a trial or deliberate. Jurors are also not permitted to talk about what happened in the deliberation room after the trial is over.

Mock jury studies are essentially laboratory experiments where participants are exposed to trial evidence through the use of video recordings or transcripts. They are a simulation of the experience of a real juror. Participants are then asked for their verdict on the case or other information about the evidence presented, for example the strength of the case or witness confidence.



Real juries are members of the public who are randomly selected to sit through a trial and reach a verdict. Mock juries are experiments which try to emulate aspects of a real juror experience

### LINK

You learned about the Ruva, McEvoy and Bryant (2007) study on page 152.

The contemporary study by Ruva, McEvoy and Bryant (2007) is an example of a mock jury study. The participants read negative pre-trial publicity or unrelated media coverage before watching a video recording of a criminal trial. Participants were then asked questions about the trial and media coverage, to see if they confused the origin of the information, and were asked to say whether they believed the defendant was guilty or not guilty.

## EVALUATION OF MOCK JURIES AS A METHOD FOR STUDYING JURY DECISION-MAKING

The benefit of using a mock jury study is that the researchers have good control over what the jury members are exposed to or not. Standardised procedures are used so that all jurors witness the same video or transcript of the court case (other than the manipulated variable). This allows cause and effect conclusions to be drawn about which factors have an impact on jury decision-making.

Mock jury studies can vary quite significantly in the extent to which they simulate a real juror experience. Mock jury studies, involving participants reading court proceedings, do not really resemble sitting through a trial, so could be argued to lack ecological validity. On the other hand, watching a video recording of the trial which depicts the opening statements, witness accounts, examination and cross-examination, and the judge's instructions, would have greater ecological validity. However, many mock jury studies do not require participants to deliberate, which is arguably the most important aspect of jury decision-making. Even if the study does involve deliberation, it is often restricted in time, and the size of the jury may be smaller than

12 people. In a real jury, 12 jurors would deliberate for as long as necessary, elect a foreperson and review evidence in accordance with a judge's instruction.

A mock jury study can involve the participant reaching a verdict or deciding the length of sentence of a defendant. This aspect of a mock jury study would be very unlike a real juror experience because there are no consequences of their verdict for an actual defendant. As such, the verdicts given by mock jurors may not be as considered or cautious as that of real jurors. Mock jurors are also aware that they are role playing. While some participants may be conscientious in their role as mock juror, others may not. Often mock jurors are asked to make judgements about their perception of witness confidence, to rate the culpability of the defendant, or decide the length of prison sentence. While these measures are taken to give an insight into factors which affect jury decision-making, they would not be the experience of a genuine juror.

Mock jury studies often used student samples because they are convenient for researchers to access. This means that the sample of jurors involved are unlikely to represent a typical demographic of potential jurors who would be selected randomly from a geographical area. Students are typically younger and educated, whereas an actual jury may comprise of a range of ages and varied educational levels. However, the extent to which this would impact on the study findings is still debated.

Some researchers question whether mock jury studies represent real life trials, which could mean that any factors found to influence jury decision-making may not influence a real jury. However, this is contested by many psychologists, such as Mitchell et al. (2005) whose meta-analysis you studied earlier, suggested that race may influence real jurors in the same way as mock jurors.

**LINK**

You learned about Mitchell et al.'s (2005) meta-analysis on page 127.

**SKILLS**

ANALYSIS, CRITICAL THINKING,  
EXECUTIVE FUNCTION

**ACTIVITY 1**

Rate each method you have learned about in this chapter in terms of reliability, validity, generalisability and ethical issues. Copy the table here and complete it by rating each method on a scale of 1 to 5: 1 being low and 5 being high.

Method	Reliability	Validity	Generalisability	Ethical issues
Laboratory experiments in criminological psychology				
Field experiments in criminological psychology				
Mock jury studies to investigate jury decision-making				

Take it further by discussing and justifying your rating to a partner.

**EVALUATING RESEARCH IN CRIMINOLOGICAL PSYCHOLOGY**

There are a number of issues related to psychological research discussed here in the context of criminological psychology. Before reading this section you should review your understanding of these concepts from Units 1 and 2.

**RELIABILITY**

Reliability refers to the consistency of the research findings. A research design with many experimental controls results in high reliability. This allows for the research to be replicated.

Laboratory experiments in criminological psychology have high reliability as the controlled nature of the design prevents other factors from affecting what is being studied. This can

include controlling participant and situational variables. For example, the same film clip may be shown or a researcher can ensure only a specific age group is being researched if this is what they wanted. These high controls allow for the research to be replicated many times and provides consistency.

Field experiments in criminological psychology are more difficult to control as there is more chance of situational variables occurring in a natural setting. This makes it difficult to replicate the exact same conditions in future research owing to these extraneous variables. As a result, the findings may be inconsistent and this lowers the reliability of the findings. Similarly, in case studies, it can be very difficult to control all the participant and situational variables. It is difficult to find two identical people who have experienced the exact same situation in order to compare findings.

### VALIDITY

Validity refers to how well a study measures what it is supposed to measure.

Doubt has been raised about the validity of the findings of laboratory experiments in criminological psychology in relation to eyewitness testimony and mock jury studies. They may be more or less cautious about their testimony or verdict compared to a real witness or juror as it is known to be an experiment. Wagstaff et al. (2003) found little evidence for factors such as weapon focus, age or level of violence having any effect on witness testimony among real witnesses, despite laboratory (and field) experiments suggesting these to be influential variables.

Similarly, Yuille and Cutshall's (1986) study showed limited effect of leading questions on real witnesses to a robbery, despite this having been demonstrated within a laboratory setting. Cecilie Ihlebaek et al. (2003) compared memory for a live staged robbery (field setting) and film footage of the same robbery (laboratory setting). They found those who watched the film footage recalled more details with greater accuracy than the staged robbery. The number of errors in recall was the same for both conditions. This shows that while laboratory experiments may find similar results to field experiments, they overestimate witness recall. This may be due to the level of attention to the film compared to an unexpected incident. It therefore suggests that reliance on the findings of laboratory experiments, as valid indications of the accuracy of eyewitness testimony, should be viewed with caution.

Field experiments in criminological psychology are more valid as they are less likely to suffer from these problems because essentially the participants are experiencing what a real witness would experience. The only exception is they are unlikely to be interviewed by the police.

Demand characteristics can also reduce the validity of an artificial experiment such as a laboratory experiment. As people may alter their behaviour in response to the situation, this does not reflect a true-life situation and therefore lowers the validity. For example, a participant may guess that the aim of the study is to test how stress affects witness recall, so they may recall less to meet the expectations of the researcher.

### OBJECTIVITY/SUBJECTIVITY

Researchers should remain totally value free when investigating a topic. While they might have a hypothesis about the factors that may influence the accuracy of eyewitnesses, they should try to remain totally unbiased in their investigations and simply gather facts that may prove or disprove their hypothesis. This can be achieved in laboratory and field experiments. They typically gather quantitative data, such as the number of guilty or not guilty verdicts recorded, that requires no interpretation by the researcher and this minimises the potential for bias.

In addition to obtaining quantitative data, a researcher may also gather qualitative data, such as the free recall of a witnessed event. In such a case, it is important for a researcher to develop a method of coding the recall so that the quality or quantity of the memory can be objectively analysed.

Achieving objectivity makes the research more scientific. Quantitative data requires little interpretation and therefore is more objective. Such data is obtained in field and laboratory experiments.

### GENERALISABILITY

Much research in criminological psychology is conducted on students, who often receive course credit for their participation. While this can be convenient for the researchers, because they are likely to have access to student lists at their university, it can pose issues when generalising the findings of research to the general population. Anyone can be a witness to a criminal incident and most of us could be called to jury service (given the appropriate age and mental capacity), so potential eyewitnesses or jurors are likely to be far more diverse than a typical study sample, at least by age and educational level. This could result in a body of knowledge being produced about factors affecting eyewitness memory and jury decision-making not actually applying to real cases.

### CREDIBILITY

Psychologists want the research they undertake to be considered seriously. They aim to contribute to the field of psychological research and influence its future. In order for this to happen the research should have credibility. All research methods can achieve credibility by striving to undertake research that is reliable, valid and objective. Research within the field of criminal psychology needs to be credible as the application of the research findings is important for the courts and police.

### ETHICS

The British Psychological Society (BPS) in the UK has produced guidance for those wanting to undertake psychological research or engage in forensic practice such as psychological formulations or treatment interventions. Other countries have their own standards and regulations for working with offenders or undertaking criminological research. These regulations provide guidance about the general conduct of a psychologist to ensure any psychological roles they undertake fulfil a minimum standard, to protect all involved.

Psychologists who practise in the field of psychology (known as practitioner psychologists, for example, 'forensic' psychologists, 'clinical' psychologists, 'health' psychologists, etc.) also have to follow additional guidance from their legal governing body, such as the Health and Care Professions Council (HCPC) in the UK. Practitioner psychologists who do not follow the guidelines in their country can be 'disbarred' from the Council and are no longer allowed to practise as psychologists.

As with all research, criminological studies should follow a number of ethical guidelines. These include the following:

#### Protection of the participant

Eyewitnesses who see real-life crimes can become distressed and it would be unethical to expose someone to this for an experiment. Watching a crime in a film clip would be less distressing than seeing it in reality. However, it is possible that watching a film clip can remind a person of any past similar experience that may have occurred, for example, if someone had been victim to a similar crime. Participants should be allowed to withdraw from the experiment in this case or in any other situations in which they start to feel distressed. Laboratory experiments have a greater protection for participants than field experiments or case studies, as the event is artificial. When conducting research with real situations, careful consideration is required to minimise any possible distress.

### LINK

The HCPC guidelines will also be studied in the context of clinical psychology (see pages 345–346).

### Deception and consent

Deception may be used to minimise demand characteristics. This can then increase the validity of the findings. As such, a researcher may not tell participants the true aim of the study. If deception is used, there is a lack of informed consent. As the participants do not know what the study is about, they cannot be fully aware of the nature and consequences of the research.

Laboratory experiments are more likely to require consent than field experiments as the person will know they are involved in an experiment/study. Field experiments may have less need for consent if it stages an incident that someone is likely to experience in their everyday lives. This possibility is more limited in criminological psychology. Deception can still be an issue for both types of experiment. For example, in field studies, participants may not be fully aware that they are in a staged situation in which they are about to witness a specific crime. If deception and consent are issues, guidance suggests the need to debrief participants once the research is complete.



Laboratory experiments have greater protection for participants than exposure to real-life events, but it is still important to provide them with a debrief

### Right to withdraw

This may be less of an issue in field experiments if, as with consent, they are likely to experience the situation in their everyday lives. However, laboratory experiments should always offer the right to withdraw, to comply with guidance regarding protection of participants. As with deception, participants should be debriefed if there are issues relating to their right to withdraw.

### Practical applications of research

Research in criminological psychology has gathered a huge body of knowledge about the causes of offending, treatment effectiveness, factors affecting eyewitness reliability, jury decision-making and much more. This body of knowledge can be used by governments to inform policy-making decisions to tackle crime and reduce reoffending in order to protect the public, as well as police practices to ensure robust testimony is used to secure accurate convictions.

One example of a practical application of psychological research is the development of the cognitive interview, developed from the research on eyewitness testimony conducted by Elizabeth Loftus.

### RISK MANAGEMENT

You will have studied risk management when conducting psychology research in Unit 1. The same risk management should be applied when undertaking criminological research or when working with eyewitnesses and offenders.

#### LINK

For more information on risk management, see Student Book 1, page 57.

When conducting field experiments into eyewitness testimony, where an incident is staged in a natural environment, it is important to consider potential hazards that might occur. For example, if a researcher stages an incident where an actor is seen to be running away from a crime scene they would need to assess the risk of a witness experiencing stress, but also the risk of a bystander pursuing the actor, or the likelihood of trips and falls.

In laboratory experiments, participants could be exposed to video footage of a criminal incident, which also needs to be risk assessed for potential psychological distress, particularly if the participant has been a victim of crime. The researchers would also need to consider the risk of stress or embarrassment when asking participants to recall an event.

All research in psychology should undertake a risk assessment to identify potential harm or hazards that could occur.

When working with offenders, forensic psychologists and other experts would undertake regular risk assessments. One such risk assessment concerns the risk of reoffending, which would pose a serious threat to the public. Forensic psychologists can use well-established assessment tools, such as the Offender Assessment System (OASys), designed to predict the probability of an offence causing serious harm. Other assessment tools are designed to predict the likelihood of abuse, violence or other specific offences.

#### SKILLS

ANALYSIS, CRITICAL THINKING

### ACTIVITY 2

Conduct your own risk assessment on Valentine and Mesout's London Dungeon study page 159. Copy and complete the risk assessment form here:

What are the risks identified?	Who might be harmed and how?	Severity (High/Medium/Low)	Likelihood (High/Medium/Low)	What action is needed to manage this risk?

### EXAM TIP

In the exam you may also be asked to draw upon your knowledge of data analysis learned in your first year. This will include: Analysis of quantitative data (List A) and decision-making and interpretation of inferential statistics (List B). You should go back through the chapters on social psychology methods and cognitive psychology methods to review these.

**CHECKPOINT**

1. The consistency of a finding relates to which key term used in research?
2. Which research term is used to refer to when data is open to interpretation by a researcher?
3. A study measuring what it claims to measure relates to which key term used in research?
4. The extent to which a sample is representative of a target population relates to which key term used in research?
5. If a participant is not told that they are being tested as part of a psychological investigation, which ethical issue does this refer to?
6. If a participant becomes anxious during a psychological investigation, which ethical issue does this refer to?
7. If a participant wants to stop answering questions about a photograph during an investigation, which ethical issue does this refer to?
8. If a participant believes that they are taking part in a study about judging defendants' accents but it is actually about defendant race, which ethical issue does this refer to?

**SKILLS**ANALYSIS, PROBLEM SOLVING,  
REASONING**EXAM PRACTICE**

1. Michaela is using a mock jury research method to investigate jury decision-making. She used an opportunity sample of students from her local college. The students were split into two groups. They both watched the same video recording of a witness giving evidence in court in which she identified the defendant as the culprit. Both groups had to decide whether the defendant was guilty or not guilty based on the witness evidence.  
Group 1 were told that the witness was 100 per cent confident in their identification of the offender.  
Group 2 were told that the witness was 80 per cent confident in their identification of the offender.  
Michaela found that the higher the level of confidence, the more likely the participants were to reach a guilty verdict.
  - a) Explain two strengths of Michaela using a mock jury research method to investigate jury decision-making. (4 marks)
  - b) Explain one way that Michaela could improve the generalisability of her mock jury study. (2 marks)
2. Explain one ethical issue that should be considered when researching factors that influence eyewitness memory. (2 marks)
3. Fezile is conducting psychological research into jury decision-making to understand what characteristics of a defendant influence jurors to come to a guilty verdict. Fezile decides to conduct a laboratory experiment to investigate the influence of defendant characteristics on jury decision-making. Discuss how Fezile would go about conducting a laboratory experiment to investigate defendant characteristics on jury decision-making. (8 marks)

# TOPIC G

# HEALTH PSYCHOLOGY



Health psychologists are interested in the ways that biological, cognitive and sociocultural factors interact and contribute to our overall health and well-being. This knowledge can be applied by practitioners in a wide range of community and health settings to increase awareness of the impact of current health behaviours, attitudes and choices on future health status. Health psychologists use psychological knowledge and understanding to promote positive health and well-being for all, and to support people experiencing chronic health problems such as heart disease or cancer, either first hand or through caring for friends and relatives.

In the first part of the topic, you will learn about the physiology of stress. You will begin to understand how stress symptoms result from interactions between the brain structures, hormones and neurotransmitters, and how long-term exposure to stress can result in exhaustion and burnout.

# CHAPTER 14 PHYSIOLOGY OF STRESS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe:

- the Hypothalamic-Pituitary-Adrenal (HPA) axis
- cortisol – the stress hormone
- brain regions associated with stress, including the hippocampus, amygdala, prefrontal cortex
- Selye's General Adaptation Syndrome (GAS), including the alarm reaction.

## GETTING STARTED

What do you think when you hear the word stress? Homework, exams, annoying siblings taking your things? How does it make you feel, physically and psychologically? Think about your whole body because stress symptoms certainly get around, from a dry mouth to tingling or numbness in your feet.

Over millions of years, the human body has evolved some pretty amazing superpowers to keep us alive! But the stressors that faced our early ancestors were very different to those in the modern world. What stressors do you think they faced in the environment of evolutionary adaptedness (see page 7)?

In this chapter you will learn a lot about how stress affects the body, including the brain. You will learn about which regions are more or less active and how this affects the way we think and feel.

- How do you think stress affects your decision-making?
  - Is your judgement better or worse?
- How do you think stress affects learning and memory?
  - Do you learn more quickly or more slowly?
  - Are your memories more detailed, or does stress make you more forgetful?

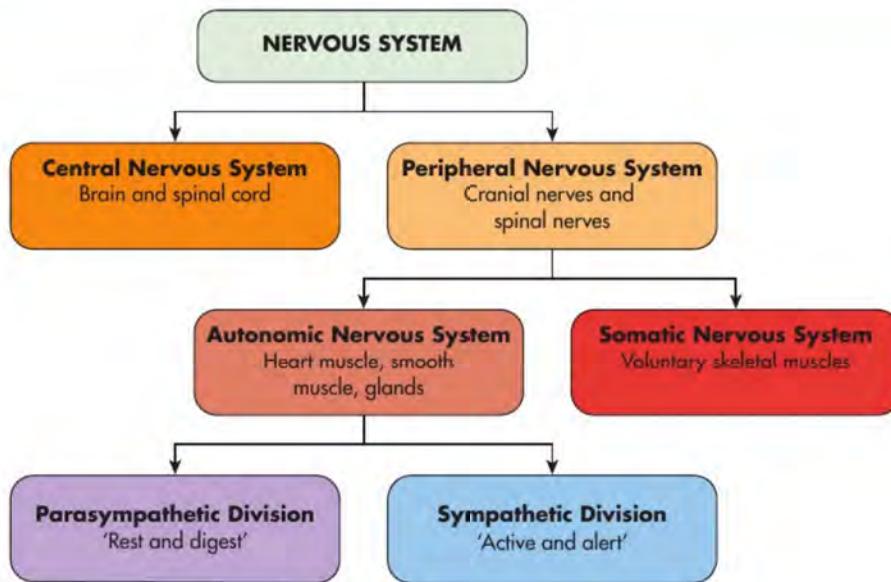
## KEY TERM

**maladaptive:** an adaptation which is not helpful in some instances. Maladaptive behaviour may be unhelpful and cause negative emotions

Stress refers to negative feelings that are triggered when an individual feels that demands placed upon them outweigh their ability to cope. However, over time the things that trigger stress have changed and require differing bodily responses in order to cope with them. The term 'genome lag' refers to the idea that typical behavioural traits and reactions displayed by modern humans may be mismatched to their current environment (Nesse and Dawkins, 2010). Ways of responding that were previously adaptive and helped to keep us alive may now be **maladaptive** and cause more problems than they solve. Many of the bodily reactions you associate with stress today, such as a racing heart and perspiration, may have helped our ancestors to pump blood around their bodies quickly and keep them cool while fighting or fleeing from a predator. However, those reactions might not help when you are sitting in a traffic jam worrying that you are going to be late for school or college!



► Figure 14.1 The divisions of the nervous system



### KEY TERMS

**autonomic nervous system (ANS):** controls involuntary, non-conscious movements in structures such as the heart and lungs; it has two parts called the sympathetic branch and the parasympathetic branch

**cortisol:** produced by the adrenal glands; involved in regulating metabolism, immune function and the stress response

**fight or flight:** a physiological and psychological response triggered by the release of stress hormones, preparing the body to confront or escape from a perceived threat or danger

**Hypothalamic-Pituitary-Adrenal (HPA) axis:** a complex neuroendocrine system that regulates the stress response, involving the hypothalamus, pituitary gland and adrenal glands

**negative feedback loop:** a self-regulating system in which the end product helps to reduce or inhibit the initial stage of the process

**noradrenaline:** unlike adrenaline, low levels of this hormone circulate constantly but increase rapidly when an organism is faced with a stressor; it increases blood pressure by narrowing blood vessels

**tropic hormones:** hormones that trigger the release of other hormones

## THE HYPOTHALAMIC-PITUITARY-ADRENAL (HPA) AXIS

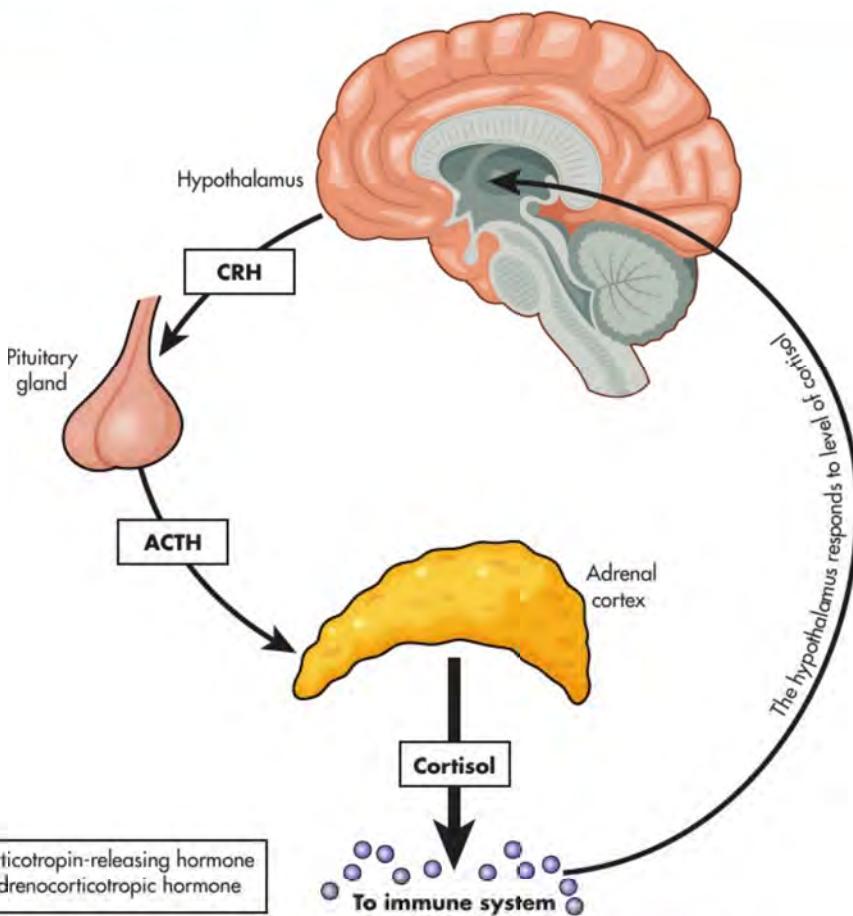
The Hypothalamic-Pituitary-Adrenal (HPA) axis is made up of three parts:

- The hypothalamus: This is a brain region which controls responses in the autonomic nervous system (ANS); the ANS is responsible for involuntary bodily responses such as increasing your heart rate when something surprises you (see Figure 14.1); it helps us to respond in ways that ensure our survival. It prepares us for **fight or flight** (see page 180).
- The pituitary gland: This is located just below the hypothalamus; it releases various **tropic hormones**. For this reason, it is referred to as the master gland.
- The adrenal glands: Attached to the top of each kidney, the adrenal glands are made of the adrenal cortex (the outside layer) which releases **cortisol**, and the adrenal medulla (the inner core), which releases adrenaline and **noradrenaline**.

Together, these three structures regulate many critical and diverse bodily processes including digestion, the sleep-wake cycle and metabolism, as well as controlling the stress response. Normally, the release of hormones follows a circadian (24-hour) rhythm, unless a stressor is detected.

As Figure 14.2 shows, if a stressor is detected:

- the hypothalamus secretes corticotropin-releasing hormone (CRH) which is a hormone that is produced by the hypothalamus and stimulates the release of adrenocorticotropic hormone (ACTH) from the pituitary gland
- this causes the pituitary gland to produce and release adrenocorticotropic hormone (ACTH) which is a hormone that is released by the pituitary gland and stimulates the adrenal glands to produce cortisol
- this travels through the blood to the adrenal glands, causing the adrenal cortex to release cortisol
- cortisol increases blood sugar levels; this helps the body to respond to stressors which remain present for more than a few hours
- the HPA is switched off when cortisol binds to receptors in the hypothalamus, inhibiting the further release of CRH; this is called a **negative feedback loop**. This is necessary as long-term exposure to cortisol can lead to negative effects, for example ulcers (see page 231), immune system suppression, slower wound healing and problems with high levels of inflammation in areas such as the gut (see page 232).



▲ Figure 14.2 The Hypothalamic-Pituitary-Adrenal (HPA) axis when a stressor is detected

#### EXAM TIP

It is easy to underestimate how much detail is required in short answer questions. If asked about the HPA axis, you need to mention why it is activated (in other words, detection of a stressor), what is released (name the specific hormones), from where (name the specific brain/bodily locations) and into what (for example, the blood).

Remember, there are three main structures and three main hormones:

1. Hypothalamus → CRH
2. Pituitary → ACTH
3. Adrenal cortex → cortisol

You could make up a mnemonic to remember the terms in the correct order: HC, PA, AC.

#### KEY TERMS

**corticosterone:** a stress hormone released from the adrenal cortex in non-primates, for example birds and rodents

**restraint stress:** psychological and physiological stress resulting from physical confinement, often used in experiments to study stress responses and their effects on health

#### EVALUATION OF THE HPA AXIS

Support for the interaction between the hypothalamus, pituitary and adrenal glands is demonstrated in research comparing wild mice and mice that have been genetically modified so that they do not produce CRH. Kyeong-Hoon Jeong et al. (2000) put the mice into a tube to limit their movement (which caused **restraint stress**). In the wild mice, **corticosterone** levels were 40 times higher after the stressor than before, but the change in corticosterone was minimal for the mice which had been genetically modified and did not produce CRH.

**KEY TERMS****coping strategies:**

conscious and deliberate effort to reduce negative emotions caused by stress, which are changeable depending on the nature of the stressor

**cultured cells:** cells that have been removed from their natural environment and are grown and maintained outside of the organism in a controlled environment, typically in a laboratory setting

**in vitro:** processes or experiments conducted outside a living organism, typically in a laboratory setting

**vasopressin:** a hormone produced by the hypothalamus and released by the pituitary gland, which helps to regulate water balance, blood pressure and social behaviour in mammals

This study supports the HPA explanation of the stress response, as CRH deficiency in the genetically modified mice would reduce ACTH, limiting signalling to the adrenal cortices. However, Lauren Jacobsen et al. (2000) have demonstrated that there is still an increase in corticosterone in mice which have had the genes for the production of CRH silenced. This shows that there may be other pathways which activate the release of corticosterone in mice, suggesting the same may also be true for humans.

A weakness of the HPA explanation of the stress response is that it is reductionist to suggest that there are just three main hormones involved. Research by Mary Familiari et al. (1989) compared the release of ACTH in **cultured cells** taken from sheep and rats. They stimulated the cells with either CRH or another hormone called **vasopressin**. Vasopressin was significantly more effective at increasing ACTH levels in the sheep cells, whereas CRH was more effective in the rat cells. Differences between these species indicate that there may also be differences in humans, and that vasopressin may also have an important role to play in the stress response in humans.

Measuring hormone levels in animals and **in vitro** studies of cultured cells is objective and these experiments are also highly controlled. This means cause and effect can be established in terms of the relationship between hormones such as CRH, ACTH and vasopressin. However, the findings regarding the relative importance of these hormones may not apply to humans. Humans are self-aware and capable of higher order cognitive processing. The way that people interpret or think about stressors may modify how they respond. We cannot understand such issues from animal experiments alone. This will be discussed further on pages 224–228 where we consider appraisal-focused **coping strategies** and cognitive behavioural therapy (CBT) as treatments for anxiety disorders.

This explanation also assumes that all individuals will have a similar response in the HPA when confronted with a stressor. However, Christine Heim et al. (2008) demonstrated that childhood trauma is associated with increased HPA reactivity. Thresholds for the release of CRH are lower and this means more cortisol is released. Likewise, an experiment by Vera Steinheuer et al. (2014) demonstrated that participants who lived in urban areas showed higher cortisol release in response to acute stress than people living in rural environments. This suggests that urban living can affect the reactivity of the HPA axis.

### USE OF PSYCHOLOGICAL KNOWLEDGE IN SOCIETY

Increased understanding of the HPA stress response has many practical applications and this is a strength of research in this area. Here are a few examples.

- Damage to the adrenal glands may mean that they do not produce and release enough cortisol for the body to cope in stressful situations.
  - This condition is known as primary adrenal insufficiency or Addison's disease, which can be very dangerous. In this condition the adrenal glands do not produce enough cortisol and aldosterone (a steroid hormone made by the adrenal cortex), leading to symptoms such as fatigue and weight loss.
- Either the hypothalamus or the pituitary gland could reduce CRH and/or ACTH, meaning signals are not sent to the adrenal cortex, also reducing cortisol levels.
  - This is called secondary adrenal insufficiency; this can be treated if patients self-administer daily injections to balance their hormone levels. These injections are critical for patients' health and well-being, demonstrating the importance of research into the role of these structures in the stress response.

**KEY TERM**

**Trier Social Stress Test:** a widely used laboratory procedure designed to induce psychological stress in research participants, commonly involving public speaking and mental arithmetic tasks

**WIDER ISSUES AND DEBATES****Cultural and gender issues in psychological research**

Research suggests that men and women may differ with regard to HPA reactivity. It is important that researchers consider this in their conclusion or they may be accused of beta bias (see page 38).

For example, Magdalena Uhart et al. (2006) found that women showed greater cortisol release in comparison with men on the **Trier Social Stress Test**, whereas men showed greater HPA activity than women when the stressor was physical (exposure to the drug naloxone).

However, women's stress responses are moderated by oestrogen levels, which change through the monthly menstrual cycle, and medications which alter naturally occurring hormone levels.

**CORTISOL – THE STRESS HORMONE****ACTIVITY 1**

Use images and text to create a digital collage or diagram to show everything that you already know about cortisol. By now you should know where it is released from and where it acts within the body. You should also know when and why it is released, and a few factors which influence the amount that is released.

What questions do you still have about cortisol?

**SKILLS**

CREATIVITY, ANALYSIS,  
CONTINUOUS LEARNING

**KEY TERMS**

**episodic memory:** the ability to recall events from your own life, including aspects such as time and place

**glucocorticoid:** a type of hormone, such as cortisol, involved in metabolism, immune response regulation and the stress response

**hydrocortisone:** an artificial form of cortisol commonly used in medicine to treat inflammation, allergies and autoimmune disorders

Cortisol is an example of a **glucocorticoid**. It is released from the adrenal cortex following stimulation by ACTH. **Hydrocortisone** is an artificial version of cortisol that can be used to treat people who cannot produce and/or release enough cortisol of their own.

Cortisol levels typically vary throughout the day. They are at their highest around 7.00–9.00 a.m. and lowest in the early hours (2.00–4.00 a.m.).

Usual cortisol cycles are disrupted in times of high stress. This is because cortisol plays a special role in helping an individual to cope with exposure to longer-term stressors.

Cortisol release in response to chronic stress is adaptive for two main reasons:

1. It increases blood sugar levels by releasing glucose from the liver. This provides readily available energy to help the body and the brain in their continued response to the stressor.
2. It conserves energy by decreasing activity in bodily processes that are unrelated to fight or flight, such as digestion, reproduction and growth.

Cortisol also has some interesting effects on memory:

- If cortisol levels are high when information is encoded, recall may be enhanced (Buchanan and Lovallo, 2001).
- However, if cortisol levels are elevated before new learning experiences, recall may be impaired (Zoladz et al., 2011).

These differing effects are influenced not only by the timing of the cortisol but also by the type of memory, for example declarative versus **episodic memory**, and whether or not the information is directly related to the cause of the elevated cortisol (Vogel and Schwabe 2016).

As well as memory impairment, long-term exposure to cortisol can have some other damaging effects, including:

- delayed wound healing
- weakening of the immune response.



Long-term exposure to cortisol weakens the immune system, making coughs, colds and other illnesses more likely

### EVALUATION OF THE LINK BETWEEN CORTISOL AND STRESS

The link between cortisol and stress has been demonstrated through numerous animal and human studies using blood, urine and saliva samples to provide objective measures of cortisol activity. Although such studies increase the credibility of the role of cortisol as a crucial part of stress response, these measures are not always reliable as cortisol concentration in blood is affected by factors such as time of day and food consumption. Furthermore, they only provide a measure of recent cortisol release, that is, from the last few hours (Wosu et al., 2015).

More recent studies have measured average cortisol release in hair samples. For example, Meike Heming et al. (2023) found a positive correlation between self-reported stress and cortisol levels found in hair samples taken from 55 medical students in Germany. This suggests that cortisol levels may be an important measure of stress and could be used to identify people who are in greater need of intervention to protect their physical and mental well-being.

#### EXAM TIP

The study by Heming et al. (2023) can be used as support for both the role of the HPA axis and cortisol as explanations of stress, since cortisol is part of the HPA response.

For example, if you were asked to explain a strength, you could explain why the students might have higher cortisol levels. In an eight-mark response, you could then evaluate the evidence by showing why hair samples are more useful than blood samples when measuring cortisol.

**KEY TERMS**

**amygdala:** brain region involved in processing emotions, including formation of emotional memories and regulation of fear response

**DNA and histone**

**methylation:** epigenetic modifications that influence gene expression by altering the accessibility of the DNA

**gene expression:**

the process by which information from a gene is used to create specific proteins

**hypocortisolism:** a

condition characterised by abnormally low levels of cortisol; it can result from dysfunction in the adrenal glands or disruptions in the HPA axis, leading to various symptoms related to cortisol deficiency

**hypothalamus:** a brain

region that regulates a wide range of physiological processes (including sleep-wake cycle, stress, hunger/thirst), and links the nervous and endocrine systems

**post-traumatic stress disorder (PTSD):**

flashbacks, nightmares and severe anxiety triggered by experiencing, or exposure to, a traumatic event

Although the effects of cortisol are well documented, it is important to remember that this is just the final stage in the HPA stress response. Hormones would not be released without activation in brain structures such as the **amygdala** and the **hypothalamus**. Therefore, stress is more than just an endocrinological response. It is also linked to neuroanatomy and genetics, since high levels of cortisol can alter **gene expression** via **DNA and histone methylation**.

**LINKS**

You studied the role of hormones, genes and synaptic transmission in the Biological Approach (Topic D). You may wish to refresh your memory of some key terminology to help you to understand the information on these pages, for example endocrine system, genes and the different parts of a synapse (such as axon terminal, dendrites).

The relationship between cortisol levels and stress is complicated and contradictory. Numerous research findings indicate a relationship between **hypocortisolism** (low levels of cortisol) and stress-related conditions. For example, Rachel Yehuda et al. (1990) found that 16 men diagnosed with **post-traumatic stress disorder (PTSD)** had significantly lower levels of cortisol in their urine than a matched control group.

This is a reliable finding replicated in studies of adults who experienced early childhood abuse. The researchers conclude that individuals with a history of trauma might show adaptations to the HPA system, including reduction in density and sensitivity of cortisol receptors. This suggests that caution is important when interpreting results of low cortisol concentration. Some individuals may be facing considerable stress, yet this may not be reflected in their cortisol levels, whether they are measured in urine, blood or hair samples.

**MATHS TIP**

Yehuda et al. (1990) stated the mean and range for the cortisol levels in the PTSD group and the control (no PTSD) group; see Table 14.1.

The mean was calculated by adding up all of the cortisol measurements for the men in each group and then dividing by the total number of men in that group ( $n = 16$ ).

The range was calculated by subtracting the lowest measurement from the highest measurement.

In this study, the mean was about one-third lower for the PTSD group and the range was almost half of that of the no PTSD group.

TABLE 14.1: URINARY CORTISOL LEVELS ( $\mu\text{G/DAY}$ )  
IN MEN WITH AND WITHOUT PTSD

	Mean	Range
PTSD	40.9	12.3
No PTSD	62.8	22.2

**APPLICATIONS OF INCREASED UNDERSTANDING ABOUT CORTISOL**

Greater understanding of the negative effects of elevated cortisol levels, including increased vulnerability to infection, has benefits to many different groups in society. For example, people with cancer are at particular risk due to changes to their employment, anxieties about family

**KEY TERMS**

**atrophy:** reduction in the concentration of bodily tissue; in the brain this could be due to ageing, traumatic brain injury or a neurodegenerative disorder such as Alzheimer's disease

**basal ganglia:** a group of nerve cells near the centre of the brain involved in motor control, executive functions and emotional control

**cerebral cortex:** outer layer of the brain, involved in various complex functions such as perception, language, memory and consciousness

**emotional dysregulation:** difficulties managing and controlling behaviour due to strong/overwhelming feelings

**executive function:** cognitive processes including planning, organising, initiating and completing tasks

members, and distress and pain caused by both the condition but also the treatments. Research has also demonstrated that elevated cortisol levels can increase the progression of the disease. This understanding of the effects of cortisol means stress management is routinely offered in many countries as a critical part of cancer care (Phillips et al., 2008).

Likewise, people who care for elderly relatives with conditions such as dementia are also at risk of stress-related physical and mental health issues. These issues may affect the consistency and quality of care they are able to provide. Failure to support this group may result in more people requiring residential care. Research with this population has demonstrated the efficacy of stress management interventions in reducing cortisol levels and improving overall physical health (Holland et al., 2011), showing how research into the stress response has had a direct impact on supporting people in their everyday lives.

**BRAIN REGIONS ASSOCIATED WITH STRESS****PREFRONTAL CORTEX**

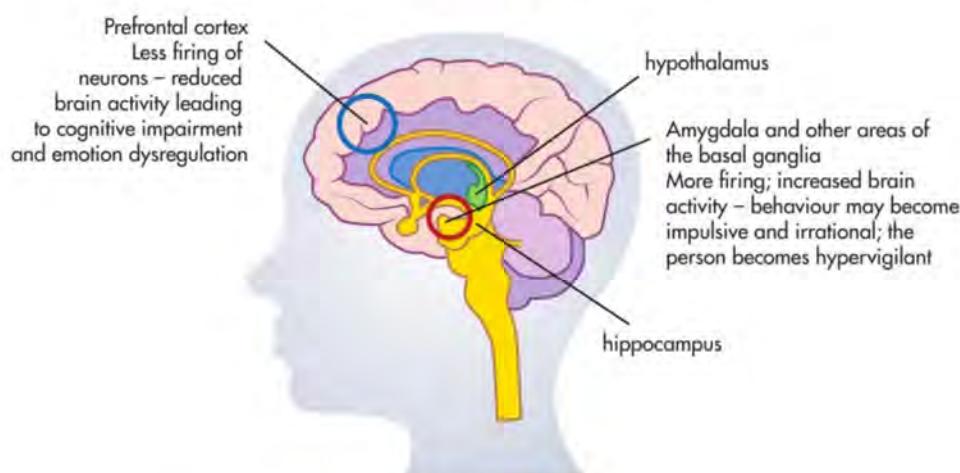
The prefrontal cortex (PFC) is the outside layer (**cerebral cortex**) of the very front of the frontal lobes. It is involved in **executive function**, including problem solving, decision-making, planning, attention and working memory, as well as impulse control and emotional regulation. The PFC is also involved in regulating the stress response.

Amy Arnsten (2009) explains that high levels of adrenaline (released from the adrenal medulla in response to a stressor) rapidly reduce firing of neurons in the PFC, leading to cognitive impairment and **emotional dysregulation**.

In contrast, firing is increased in the amygdala and other areas of the **basal ganglia** (see Figure 14.3). As the basal ganglia is associated with habits and automatic behaviour, this explains why stress can lead to impulsive and irrational behaviour.

Over the longer term, excess cortisol can lead to **atrophy** of dendrites in the PFC. This means people with stress-related disorders may struggle with executive function, causing problems with daily functioning, including being indecisive and struggling to pay attention.

The effects of adrenaline on the brain



► Figure 14.3 The effects of adrenaline on the brain

**Evaluation of prefrontal cortex activity**

Studies have shown that drugs such as prazosin which block alpha-1 adrenaline receptors (without activating them) can help to increase PFC activity in people with post-traumatic

**KEY TERMS**

**active emotion-focused coping:** active strategies involve intentional efforts to seek emotional support and participate in activities which promote positive emotions, such as journaling, mindfulness, exercise and creative/expressive hobbies (for example, playing an instrument, painting)

**declarative memories:** memories which can be put into words, including episodic and semantic memories; also called explicit memories

**flashbulb memories:** vivid, detailed and long-lasting recollections of significant and/or emotional events; people are often highly confident that these memories are accurate

**limbic system:** an interconnected set of brain structures involved in learning, memory, emotion regulation and motivation; key structures include the hypothalamus, hippocampus and amygdala

**sympathetic adrenal medullary (SAM):** controls the body's immediate stress response (also known as fight or flight), beginning with the release of CRH from the hypothalamus

stress disorder (PTSD). For example, these drugs help to increase concentration and decrease impulsive behaviour in people who have developed PTSD as a result of traumatic events experienced as part of their work and/or in their personal lives. This is important as it shows that understanding how different areas of the brain respond to stress has helped with the development of treatments for people experiencing stress-related disorders (Arnsten et al., 2015).

### HIPPOCAMPUS

The hippocampus is part of the **limbic system** and is located in the temporal lobes. This brain structure plays a critical role in the creation of new **declarative memories**. However, it also includes high levels of two types of cortisol receptors called mineralocorticoid receptors (MRs) and glucocorticoid receptors (GRs). This is because the hippocampus plays an important role in the stress response. For example, as part of the negative feedback loop method on page 177, it signals to the hypothalamus and the pituitary gland to reduce CRH and ACTH production. This demonstrates the importance of the hippocampus in regulating the stress response and helping the body to return to normal following exposure to a stressor.

As the hippocampus is involved in both stress responses and memory, it is unsurprising that cortisol can lead to some complex effects on both remembering and forgetting. Sami Ouane and Julius Popp (2019) explain that when cortisol levels are low, cortisol binds to MRs and declarative memory is enhanced. However, when cortisol levels are high, it binds with GRs, leading to memory impairment. When cortisol remains high for an extended period, this can lead to reduction in the size and complexity of the dendrites of hippocampal nerve cells. This means that neural transmission will be reduced in the neural networks within this structure, leading to difficulties in learning and memory.

### Evaluation of hippocampus activity

Support for the negative but reversible effects of cortisol on hippocampal functioning comes from a study by John Newcomer, Gregg Selke and Angela Nelson (1999). In a double-blind, randomised control trial, participants were given a dose of cortisol that was similar to the level created naturally by the body when an individual experiences a major stressor. In comparison with the control group, participants showed significant impairment in verbal declarative memory. This suggests that naturally occurring stress may lead to similar memory problems, possibly due to its impact on the hippocampus.

Research by Sonia Lupien et al. (1998) shows a negative correlation between cortisol levels and memory function in older adults, where higher levels of cortisol are associated with weaker memory function and reduced hippocampal volume. On a more positive note, Britte Hölzel et al. (2011) found that participation in an eight-week mindfulness-based stress reduction (MBSR) programme was associated with increased grey matter concentration in the hippocampus. This shows that this **active emotion-focused coping strategy** can increase volume in this brain region in a relatively short period.

### AMYGDALA

The amygdala is like the engine house of the stress response. This is where it all starts. As soon as a threat is detected, the amygdala is activated. It immediately activates the **sympathetic adrenal medullary (SAM)** (see page 187), followed by the HPA axis. Like the hippocampus, the amygdala is also part of the limbic system. Specifically, it is part of the basal ganglia. This brain structure is critical in the processing of emotions and so is particularly important in identifying potential threats. Through connections with the hippocampus, it also helps us to create vivid and lasting memories in situations that have elicited (triggered) emotions including surprise and fear (known as **flashbulb memories**).

**KEY TERMS**

**coping style:** an individual's habitual way(s) of managing stress; typically they are consistent over time and used to deal with a variety of different types of stressor

**dendritic branching:** an example of neuroplasticity in which the branches extending from the cell body of a neuron (dendrites) increase in complexity, reaching out to and forming connections with neighbouring cells

**emotional intelligence:** the ability to recognise, understand and respond to your own emotions and those of other people

**hypervigilance:** heightened alertness and sensitivity to potential threats in your surroundings

**neuroplastic changes:** the brain's ability to change and adapt as a result of age and experience; involves reorganisation of neural networks through the strengthening and weakening of synaptic connections

While adrenaline is associated with decreased activity in the prefrontal cortex, the reverse is true of the amygdala. Here, high levels of adrenaline trigger **dendritic branching** and increase neural signalling in this region. Increased activity in the amygdala means the person experiences **hypervigilance**, continually scanning the environment for potential threats and dangers. An overactive amygdala can lead to inhibition of areas such as the prefrontal cortex, meaning the person is unable to think logically and regulate their fear and anxiety. Daniel Goleman (1995) has referred to this situation as the amygdala hijack, explaining that this can be averted in the short term via breathing exercises, mindfulness and interventions targeting **emotional intelligence**.

### Evaluation of amygdala activity

Inês Caetano et al. (2021) provided support for the role of amygdala activity in stress response in a recent study which demonstrated a positive correlation between amygdala volume and perceived stress. Stress was measured using the PSS10, a ten-item self-report which measures the extent to which respondents feel overloaded and that their lives are uncontrollable and unpredictable (Cohen et al., 1983). This scale is useful as it focuses on the appraisal of events rather than the events themselves. Amygdala volume was measured using an MRI scan and the researchers used multiple techniques before the analysis of the images to improve the validity of the data.

Despite the strengths of the measures used in this study, the data is correlational, meaning it is impossible to know whether high amygdala volume is a cause or an effect of high levels of perceived stress. However, as with changes in the hippocampal volume, Britta Hölzel et al. (2010) have demonstrated that MBSR can lead to decreases in grey matter density in the amygdala. This suggests that certain **coping styles**, for example active emotion-focused coping in the moment, may help a person to improve emotional regulation through structural changes to this critical brain region.

### WIDER ISSUES AND DEBATES

#### Reductionism

Focusing on **neuroplastic changes** in the amygdala as a consequence of exposure to environmental stressors may lead to an overestimation of the role of nurture in determining the body's response to stress and may be considered reductionist.

Research on candidate genes associated with PTSD helps to explain why some people may be predisposed to greater amygdala activity in the response to stress than others. Dominique De Quervain et al. (2007) have demonstrated that trauma survivors with PTSD were more likely to be carrying a specific variant of the ADRA2B gene than those without PTSD.

This gene is responsible for the production of noradrenaline receptors found in the amygdala. This demonstrates how taking a more holistic approach to investigating interactions between genetic, hormonal and neurochemical factors is helpful in understanding how the amygdala contributes to stress and stress-related disorders.

### SELYE'S GENERAL ADAPTATION SYNDROME (GAS)

Hans Selye defined stress as 'the non-specific response of the body to any demand upon it' (Selye, 1974). His research with rats revealed that the body responds in a similar way to a wide range of different types of environmental stressor and this inspired the development of the general adaptation syndrome (GAS). This term is used to describe the universal physiological reactions that occur following the body's response to stress, whether from an external threat or

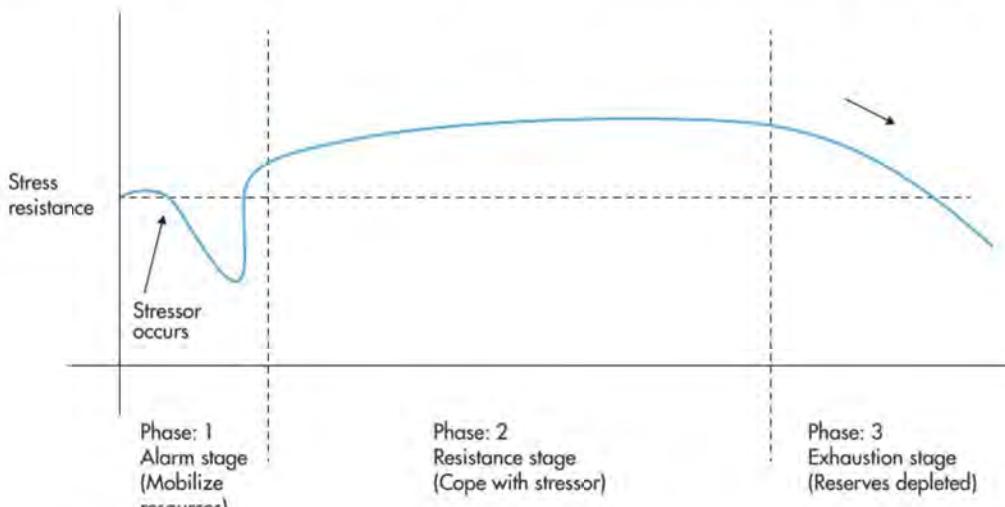
from illness or injury. It should be noted that at the time Selye was working, cortisol had only recently been discovered and understanding the stress response was limited.

### LINKS

You will learn more about the practical and ethical issues involved in experimenting on non-human animals page 250. You can use Selye's research on rats and Brady's research on monkeys (see page 231) as examples.

- *General* refers to the idea that the response is the same regardless of the specific nature of the stressor.
- *Adaptation* refers to the idea that these responses help the individual to survive.
- *Syndrome* refers to the idea that there are many aspects to the response, although Selye believed that the response is universal, meaning it affects everyone in the same way.

► Figure 14.4 Selye's (1936) General Adaptation Syndrome



### KEY TERMS

**countershock phase:** the second substage of the alarm reaction in Selye's GAS; the active defence stage which is regulated by release of adrenaline and noradrenaline from the adrenal medulla (fast route), followed by cortisol release from the adrenal cortex (slow route)

**shock phase:** the first substage of the alarm reaction in Selye's GAS; includes a decrease in body temperature, blood pressure and muscle tone

**thymus:** a gland that produces white blood cells, which help the body to fight infection

### STAGE 1: ALARM REACTION

The alarm reaction begins when an organism is exposed to a stressor. As shown in Figure 14.4, there is an initial decrease in the organism's ability to cope with the stressor.

- Substage 1: Selye (1936) refers to this substage as the **shock phase**. This is characterised by a decrease in body temperature, blood pressure and muscle tone.
- Substage 2: This is swiftly followed by the **countershock phase**. The body begins to actively defend itself against the stressor. Messages are now sent from the hypothalamus to the adrenal glands via two routes:
  - the fast route is called the sympathetic adrenal medullary (SAM) system, (see below) and involves the release of adrenaline and noradrenaline from the adrenal medulla
  - the slow route is the HPA axis (see page 177) and involves the release of cortisol from the adrenal cortex.

Selye states that although the alarm reaction is adaptive, it also places the body under significant strain. In his research with rats, he observed that within 6–48 hours, the size of the adrenal cortex increased while the **thymus**, liver and spleen decreased, and the rats developed gastrointestinal ulcers (Selye, 1936).

**KEY TERMS**

**brainstem:** brain structure which links the spinal cord and the rest of the brain; involved in basic life functions including breathing, heartbeat and reflexes

**homeostasis:** an internal state of balance within the body which ensures optimal conditions for normal bodily functioning; following a stress response, the body will attempt to return to this state

**The sympathetic adrenal medullary system**

The SAM is activated as soon as a stressor is detected and coordinates the body's immediate response. This is often referred to as the fight or flight response. At this stage, not only does the hypothalamus release CRH in response to stressors (the slow route), it also sends signals to structures in the **brainstem** which coordinate activity in the autonomic nervous system (ANS) (the fast route).

When the sympathetic branch is activated, it sends a message to the adrenal medulla, the central core of the adrenal gland. This releases two hormones, adrenaline and noradrenaline, which enhances activity in the sympathetic branch. This triggers a wide range of bodily responses which prepare the individual to deal with the stressor. Whether the response is fight or flight, extra energy will be required, so this response includes increased heart rate to pump blood to our muscles, relaxation of the bronchi in the lungs and increased breathing rate, and increased perspiration to keep us cool. We also become more alert and our pupils dilate to help us to detect further threats.

**STAGE 2: RESISTANCE**

If the stressor persists for longer than 48 hours, the organism moves into the resistance stage. As shown in Figure 14.4, the organism has now adapted to the stressor. At this stage, activity in the SAM decreases and the parasympathetic branch takes over as it tries to return the body to a state of **homeostasis**. However, cortisol secretion increases to allow the organism to cope with the stressor.

The stress response is now operating at maximum capacity. Although the individual may appear to be coping, resources are becoming rapidly depleted.

**STAGE 3: EXHAUSTION**

Eventually, the prolonged stress response can no longer be sustained. Resistance decreases (see Figure 14.4), activity in the sympathetic branch of the ANS resumes and alarm reaction symptoms such as increased heart rate and perspiration return. The parasympathetic branch of the ANS may no longer be able to function.

Exhaustion is characterised by sleep problems, irritability, difficulty concentrating, restlessness, trembling, fatigue, hypervigilance, anxiety attacks and crying. Damage to the adrenal glands and the immune system mean the individual becomes vulnerable to stress-related illnesses and even death.

**THINKING LIKE A PSYCHOLOGIST**

Carry out some online research to find out more about illnesses which can result from chronic stress. You will quickly discover that the effects are extremely diverse, underlining the critical value of teaching everyone about the importance of effective stress management. Do you think that responsibility to reduce stress should be placed with the individual, or should organisations take greater responsibility for creating stress-free workplaces?

**EXAM TIP**

Before going any further, you may like to turn your attention to the classic study by Brady (1958) (see page 231 for more on Brady). This study can also be used to evaluate the GAS. Combine this with your understanding of the objectivity and control that can be achieved in animal experiments (see page 250) and you will be able to form a well-developed argument about the credibility of the GAS as an explanation of how stress affects the body in mammals.

**SKILLS**

SELF-DIRECTION, ANALYSIS

**ACTIVITY 2**

To help you to consolidate the names of different brain regions in this chapter, play a game of catch with your classmates. You will need some coloured bean bags or soft balls. Use the balls to 'activate' different brain structures and target organs. Hopefully you will have some fun, while also learning about the physiology of stress, including the negative feedback loop.

- Write down every brain structure and bodily organ involved in the SAM (fight or flight response) and the HPA axis on small pieces of paper and put them into an envelope or similar.
- Everyone must choose an envelope to find out which role they will take (more than one person can play the same role).
- Ask your teacher to randomly play a loud sound (a stressor) several times during the lesson.
- Whenever the noise is played, you must start to act out the SAM (fast response) and the HPA (slow response). Read back through the chapter carefully to work out who should start and the correct order of events.
- The first person in the SAM will shout the name of their brain structure (clue: it starts with A) before throwing a ball to the structure that they wish to 'activate' (clue: it starts with B).
- When this person catches the ball, they must shout their name before activating the next structure(s) by throwing one or more balls.
- At the same time, the first person in the HPA will shout their name and throw a ball to signal to the next brain structure and so on; when hormones are released, the brain structures must also shout what they are releasing. You could use different coloured balls to indicate different hormones; how many colours will you need?
- Remember, some parts of the brain are switched off during the stress response and some work harder than usual.
  - You could have two people playing the role of the prefrontal cortex, throwing a ball back and forwards throughout the lesson, to keep each other 'on task'. As soon as the adrenaline is released, they will need to slow down or stop completely.
  - How could you represent the increased activity in the amygdala?

**KEY TERMS**

**adrenalectomy:** surgical removal of the adrenal glands

**hyperglycemia:** high blood sugar

**hypophysectomy:** surgical removal of the pituitary gland

**Evaluation of Selye's (1936) General Adaptation Syndrome**

Despite research into cortisol being in its very early stages, Selye claimed that the adrenal cortex was involved in the alarm reaction. This is supported by his laboratory experiments with rats that underwent **adrenalectomy** and/or **hypophysectomy**. These rats showed extreme shock response, minimal signs of countershock such as **hyperglycemia** and did not show the expected reduction in size of the thymus. This data supports the idea that adrenal glands release a substance that raises blood sugar and that there is a link between the pituitary and adrenal glands, since hypophysectomy leads to the same outcomes as adrenalectomy.

However, these studies were conducted on rats. Although humans and rats share much of the same brain anatomy and chemistry, rats do not have such a well-developed prefrontal cortex, a brain region which has been shown to have specific stress-related effects in humans. This suggests that Selye's research may over-simplify the complexity of the transactional nature of stress in humans, that is, the way that stress results from an interaction between cognitive, social and biological factors. This is supported by autopsy research by Lazarus et al. (1999). Higher levels of corticosteroids were found in people who died of their injuries but remained conscious, compared with those who died but were unconscious. This suggests that cortisol release may be related to distress, that is, negative evaluation of a stressor as opposed to simply the body's reaction to injury.

**LINKS**

See page 188 for a discussion of ways in which cognitive factors can alter the biological aspects of the stress response.

Selye claimed that the GAS is a universal response to stress, meaning everyone responds in a similar way to internal and external stressors. However, research shows that this simply is not the case. We now know that early experiences affect the reactivity of the HPA axis (see page 177) and this means that some people will have a more intense countershock response than others. Likewise, research has revealed gender differences in the stress response – women respond more to psychological stressors and men respond more to physical stressors (see Uhart et al., 2006).

However, research by Laura Stroud et al. (2002) shows that there are also gender differences in terms of the type of psychological stressor; men had a greater countershock response following an achievement-based stressor, whereas women showed greater reactions to social rejection stressors. These differences between the sexes and the stressors demonstrate that the stress response is far from universal.

**LINKS**

You learned about the use of animals in laboratory experiments in Student Book 1 (see pages 266–268). You may like to revisit this now. Think about how Selye's experiments can be related to humans and whether you think the benefits outweigh the costs. With regard to the Animals (Scientific Procedures) Act (1986) and Home Office regulations, what guidelines and rules would researchers need to comply with if these experiments were being completed today?

▼ Companies may look at home working as one option when trying to reduce levels of stress-related illness

**Practical application of Selye's (1936) General Adaptation Syndrome**

One practical application is that Selye was the first to highlight the link between long-term exposure to stress and the increased risk of a range of physical illnesses. During and following the COVID-19 pandemic, the average number of sick days per year for UK employees

has increased from 5.8 to 7.8, with many people citing stress-related illnesses as the reason (Cook, 2023). This has prompted global companies to consider innovative ways of reducing workplace stress, for example encouraging home working, flexible hours, shorter working weeks, reduction in unnecessary meetings and even company-wide holiday weeks. This means that employees do not feel the need to check emails while on holiday, as everyone is off at the same time. These innovations should help workers to make more time for activities which combat stress (such as exercise and socialising), reducing sick days and improving productivity.



**EXAM TIP**

You can create evaluation points for and against the GAS using material from this chapter. For example, the review of research provided by Rodrigues et al. (2009) shows how brain structures including the prefrontal cortex, hippocampus and amygdala are affected by hormones such as cortisol. This research can be used as support for the alarm and resistance stages, which Selye believed were related to stimulation of the adrenal cortex. The scientific credibility of this review strengthens the GAS as an explanation.

**CHECKPOINT**

1. What hormone is released from the hypothalamus that triggers the HPA axis in response to a stressor?
2. Adrenaline is released from the pituitary gland: true or false?
3. How does cortisol increase blood sugar?
4. Name two processes that are halted to conserve energy during the fight or flight response.
5. What happens to neurons in the hippocampus when the individual is exposed to prolonged stress and high levels of cortisol?
6. How does overactivity in the amygdala affect the prefrontal cortex and what type of behaviours might this lead to?
7. Why do people exposed to chronic stress have difficulties with executive function?
8. What is the first substage in the alarm reaction?
9. Which branch of the autonomic nervous system shows an increase in activity during this stage?
10. Who showed greater stress responses to physical stressors (such as an injection) than psychological stressors: men or women?

**SKILLS**

ANALYSIS, REASONING/  
ARGUMENTATION,  
INTERPRETATION

**EXAM PRACTICE**

1. Give two weaknesses of research investigating brain regions associated with stress. (4 marks)
2. Tomás is investigating the effects of stress on the hippocampus. He decides to study medical students who are stressed about their final exams. He measures the size of their hippocampi using an MRI scan before and after a 12-week programme in which they are taught relaxation strategies including breathing exercises. Their results are shown in Table 14.2. Tomás decides to carry out a Wilcoxon signed-ranks test.
  - a) Copy Table 14.2 and then calculate the Wilcoxon signed-ranks test for Tomás' data. You may refer to the formulae found page 252. (4 marks)
  - b) Determine, with reference to the data, whether Tomás' results are significant for a one-tailed (directional) test at  $p \leq 0.05$ . A critical values table can be found on at the start of each exam paper or online. (1 mark)

TABLE 14.2: RESULTS OF TOMÁS' STUDY ON MEDICAL STUDENTS WHO ARE STRESSED ABOUT FINAL EXAMS

Participant	Condition A: Hippocampus size at time point 1	Condition B: Hippocampus size at time point 2	Difference	Ranked difference
A	2.8	3.5		
B	3.4	3.4		
C	2.9	2.5		
D	1.5	1.8		
E	3.5	3.9		
F	2.1	2.7		
G	3.8	3.5		
H	3.2	3.6		

3. Faazel has his own small business as a baker. He wakes up very early every day to bake bread and cakes to sell on his market stall. Unfortunately, his customers are beginning to shop at the local supermarkets and Faazel is worried about his family's finances. His son has health problems requiring regular treatment but the hospital is many miles from where the family lives. Faazel is beginning to suffer with a racing heart and sometimes wakes up sweating and panicking in the middle of the night. He is struggling to organise his paperwork and bills. He has forgotten to pay one of his suppliers and has delivered the wrong orders to some of his customers. Explain Faazel's behaviour with reference to two or more brain regions associated with stress. (4 marks)

4. Evaluate research investigating Selye's General Adaptation Syndrome (GAS) with reference to relevant practical and ethical issues. (8 marks)

# CHAPTER 15 FACTORS AFFECTING STRESS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- life events and daily hassles including the Holmes and Rahe stress scale
- individual differences including personality traits, Type A personality and links to stress
- social support including family, friends and community.

## GETTING STARTED

This chapter is all about factors that can increase or decrease stress, including the role of other people. Social support is a key factor in reducing the negative impact of stress. Before you read any further, spend some time thinking about all the different people and social groups that you perceive as sources of social support. Draw a diagram with yourself in the middle and surround yourself with all the people that support you. You could use different colours or patterns to indicate the different types of support, for example listening to your troubles (emotional), helping with transport or homework (practical). Remember, whether your social network is small or large doesn't matter, it's how connected and well supported you feel that is important.

Our social support network is a bit like a garden; it needs to be nurtured and looked after, otherwise it will fade away. What could you do to improve your feelings of being connected with others in your network?

## KEY TERM

### Social Readjustment Rating Scale (SRRS):

also known as the Holmes and Rahe stress scale; designed to measure the amount and duration of change to a person's daily life necessary for them to cope with the range of positive and negative life events they have faced in the last twelve months

A stressor is any event or situation that requires the individual to make physical or psychological adjustments in order to cope. These may range from short-term daily difficulties or irritations such as missing the bus to school or losing your calculator, to longer-term serious issues such as being involved in a serious accident or a natural disaster.

## LIFE EVENTS AND THE HOLMES AND RAHE STRESS SCALE

Thomas Holmes and Richard Rahe developed the **Social Readjustment Rating Scale (SRRS)**, a self-report questionnaire designed to measure the degree to which a person may need to change aspects of their normal daily life in order for them to cope with major sources of stress (Holmes and Rahe, 1967). Today, this scale is commonly referred to as the Holmes and Rahe stress scale. The researchers were interested in the effects of positive and negative life events, meaning significant occasions or incidents, expected and unexpected, that occur throughout the life span.

## ACTIVITY 1

Can you think of anything that has happened in your lifetime, either to you or a family member, that might be defined as a life event? Label each of the events as positive or negative and expected or unexpected. Compare your list with a classmate and discuss the impact you feel these events had on your lives, then and now. Do you feel that your personality changed in any way after these events?

If you prefer, you could think about one of your favourite television or film characters and the life events that have happened to them.

## SKILLS

EMPATHY/PERSPECTIVE TAKING,  
COMMUNICATION

**KEY TERM**

**life change unit (LCU):** a way of quantifying the intensity of a life event in terms of the amount of social readjustment required in order to cope; the higher the LCU score, the greater the necessary readjustment due and the more intense the stress

**THINKING LIKE A PSYCHOLOGIST**

The Social Readjustment Rating Scale includes 43 life events, many of which relate to cultural values connected with personal success, materialism and self-reliance. What does this tell you about the SRRS? Do you think the scores assigned to the different events would have been different if the research was conducted in a non-Western (majority) culture? Can you think of any life (and or community/national) events that might obtain very high scores in some cultures but not others?

Holmes and Rahe also used this scale to establish a negative correlation between the amount and severity of stressful life events a person is facing and their physical health and well-being; the more stressed the person, the worse their health. They believed that stress was a 'necessary but not sufficient cause of illness', suggesting that stress can be used to predict disease onset (Holmes and Rahe, 1967: 213). They aimed to determine the average severity of specific life events and order them from the most to the least stressful.

To create the SRRS, they recruited a diverse opportunity sample of 394 men and women of differing ages, educational and religious backgrounds. Participants completed a questionnaire in which they rated 43 life events, for example death of spouse, pregnancy, vacation. These events were selected from the researchers' clinical experience and were associated with differing degrees of social readjustment. Participants were asked to give each event a score (called a **life change unit (LCU)**) to indicate the average amount of readjustment associated with each event. They were asked to base their scores on their own life experience but also their knowledge of other people. Life events were scored using marriage as a baseline, which was given an arbitrary score of 500. Participants were, therefore, being asked to what extent each event was more or less stressful than marriage. They were instructed to give similar scores to events that required intense but short-term adjustment and less intense but longer-term adjustment.

The final SRRS was created by calculating the average scores for each life event and dividing by 10, then organising the events in rank order from most to least stressful (that is, requiring most to least social readjustment). The top five most stressful life events were: death of spouse, divorce, marital separation, jail term and death of close family member; the bottom five were change in number of family get-togethers, change in eating habits, vacation, Christmas and minor violations of the law.

**EVALUATION OF LIFE EVENTS AND THE HOLMES AND RAHE STRESS SCALE**

As the Holmes and Rahe stress scale uses quantitative data, it is possible to calculate the statistical significance of findings such as the correlation between life events and illness. It also means that the data is more objective as the researchers just need to add up the LCUs rather than making subjective judgements about how much stress each life event might cause. So the results of different studies using the Holmes and Rahe stress scale can be compared.

However, a weakness is that the LCUs assigned to the life events may be ethnocentric, as the initial samples were all from the USA and the people were mainly white, middle-class and Protestant. For example, events associated with important American values such as personal success may have higher scores attached to them than events relating to group success. This could mean that the SRRS is a poor predictor of health status for people from collectivist cultures.

This said, research by Tai-Hwang Woon and colleagues showed that there was in fact a strong positive correlation between readjustment ratings for each life event for medical students studying in Kuala Lumpur in Malaysia, versus participants from Seattle, USA (Woon et al., 1971). The Malaysian students were from a range of ethnic backgrounds including Chinese,

Indian and Sri Lankan, and represented a variety of religions including Buddhist, Hindu, Muslim, Protestant and Catholic. This suggests that participants from differing cultural backgrounds mainly agreed on the rank order of the life events. However, there were some differences – events relating to breaking the law and romantic love were ranked lower by participants from Malaysia compared with those from the USA, whereas events relating to financial security, religious activities and family were ranked higher.

A strength of the Holmes and Rahe stress scale is that research suggests that the LCUs assigned to each event are reliable. Marvin Gerst and colleagues asked people to rate the necessary readjustment needed for each of the 43 life events (in comparison to marriage) three times over two years (Gerst et al., 1978). They found that the resulting rank order of the events remained remarkably consistent over time. However, half of their participants were psychiatric patients and this group varied more regarding their perception of the impact of the life events at the three assessment points. This suggests that a person's current mental state may mean certain events are experienced as more or less stressful. It may, therefore, be more appropriate to ask participants to give their own subjective interpretation of the level of readjustment necessary for the various life events that they have experienced.

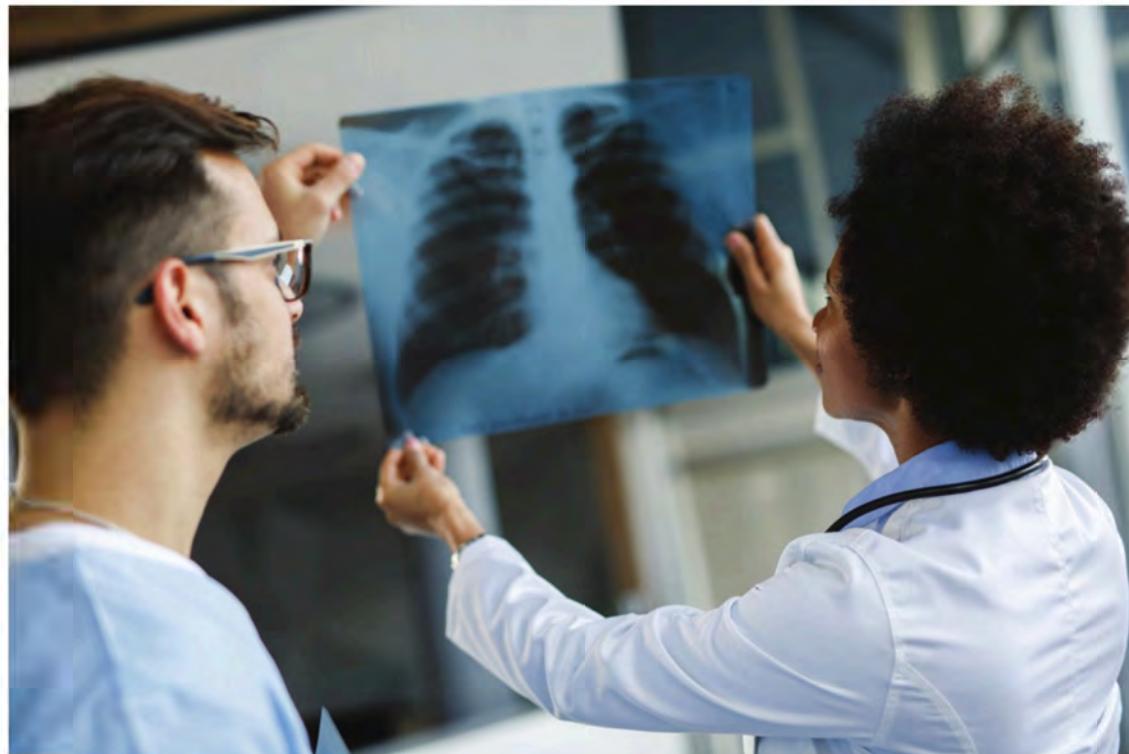
A further limitation of self-reported measures of life events is that inter-rater reliability is poor, suggesting that people find it difficult to accurately report their own experiences. For example, Joel Yager and colleagues asked 209 men to complete the schedule of recent experience (SRE) (Yager et al., 1981). The participants' spouses also completed the scale for their partner. Perfect agreement was only found in about one third of cases. Typically, the target person reported events that their partner did not. The researchers suggest that approximately 28 per cent more information can be discovered when a friend or relative is also available to apply information about relevant life events. Part of the problem is that the self-report relies on memory which can be affected by stress and illness; in other words, people who are ill may remember more negative than positive events. Reliability of self-reported life events may be low. People may not remember their past accurately. They may not be able to remember if a certain event happened within the target time frame and may not believe that the event that happened was severe/intense enough to count (Schless and Mendels, 1978).

### THINKING LIKE A PSYCHOLOGIST

Can you think of other ways that life events could be measured that would avoid problems with subjective interpretation of the events listed in the scale and also with accuracy of recall? Swap your ideas with a classmate – can you think of any limitations relating to their suggestions? How would you overcome any limitations they find in relation to your ideas?

A strength of the SRRS is that it has been useful as a predictor of stress-related illnesses. For example, 2,500 US sailors completed the SRE (based on the original SRRS) in relation to the past six months (Rahe, 1968). This was done prior to their ships departing for a six-month tour of duty. The men's LCU scores were ranked; the top 30 per cent were classified as high illness risk and the bottom 30 per cent as low illness risk. The ships' doctor supplied medical records for the men in these two groups. The researchers found that men in the high-risk group experienced significantly more illnesses than the men in the low-risk group (see Table 15.1). This finding has been replicated in a variety of studies which demonstrate that people with LCUs of 0–150 are typically in good health during the following year, whereas 50 per cent of people with LCUs from 150–300 become ill in the following year, increasing to 70 per cent for those with LCUs of 300+ (Rahe, 1975).

Syed Jafri and colleagues found that people with lung cancer were significantly more likely to have experienced a stressful life event in the five years prior to disease onset than a control group matched for the number of stressful events across their lifetime, age, gender and smoking (Jafri et al., 2019). What are the strengths of using a matched pairs design in this study?

**SKILLS**

INTERPRETATION, PROBLEM-SOLVING

**ACTIVITY 2**

TABLE 15.1: TOTAL NUMBER OF ILLNESSES, BY MONTH, FOR THE SIX-MONTH PERIOD

Month of tour	Number of illnesses		$\chi^2$
	High risk	Low risk	
1	250	149	24.6
2	285	205	12.1
3	320	245	8.9
4	222	145	15.2
5	228	155	12.9
6	198	158	17.9
Total	1 503	1 057	91.6

You can use the data in Table 15.1 to practise your data analysis skills. For example, to work out the average number of illnesses per month for the high- and low-risk groups, you need to do the following:

- Read the title and column headings carefully to select the right figures.
- Add up the figures for the number of illnesses in the high-risk group for months 1–6 ( $250 + 285 + 320 + 222 + 228 + 198 = 1\,503$ ).
- Check your calculation by adding up again in reverse order, that is, add the numbers in order, starting with 250 the first time, and then check by adding in reverse from 198 first. This is a good way of checking that you haven't made a calculator error as you could easily make the same error twice if you check by adding them up in the same order.

- Divide the total number of illnesses by the number of months (6) to give you the mean number of illnesses per month:  $1503/6 = 250.5$ .
- Now do the same for the second column of data to work out the mean for the low-risk group and give your answer to one decimal place ( $(149 + 205 + 245 + 145 + 155 + 158) = 1057/6 = 176.2$ ).

If you want to calculate the standard deviation, you would use the following formula:

#### Standard deviation (sample estimate)

$$\sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

TABLE 15.2: HOW TO FIND THE STANDARD DEVIATION FOR THE HIGH-RISK GROUP

Number of illnesses	Subtract the mean (250.5) from every score ( $x - \bar{x}$ )	Square each result (multiply by itself)
250	-0.5	0.25
285	34.5	1 190.25
320	69.5	4 830.25
222	-28.5	812.25
228	-22.5	506.25
198	-52.5	2 756.25

- The answer to this part of the equation  $\sum(x - \bar{x})^2$  is 10 095.5
- Now divide your total (10,095.5) by  $n - 1$ , where  $n$  is the number of data points (so  $6 - 1 = 5$ ).
- $10,095.5/5 = 2019.1$ ; this figure is called the variance.
- To find the standard deviation, you need to find the square root of the variance = 44.93439662441235. Don't forget your calculator, you will need it in every exam.
- Always read the exam question carefully to see whether you need to round up your answer to one, two or three decimal places (or you may be asked to give your answer to two or three significant figures). Here we have given the answer to two decimal places = 44.93 (as the next figure to the right was a 4 we round down, so the final digit in the answer will be a 3).
- Follow the steps to work out the standard deviation for the low-risk group.

#### LINKS

See page 97 for a discussion of the use of correlational studies in health psychology, using life events and stress as an example.

#### EXAM TIP

If you are asked about weaknesses of the Holmes and Rahe stress scale, remember you can use information discussed in other parts of the chapter. For example, on page 198 you will learn about individual differences that mean that some people may be more affected by certain life events than others. This shows that measuring life events using the Holmes and Rahe stress scale may not be helpful in predicting illness for everyone, as some people will find certain events more stressful than others.

#### MATHS TIP

The formula for standard deviation is given to you in your exam booklet – you don't need to remember it.

**KEY TERMS**

**daily hassles:** irritating, frustrating, distressing demands that are a part of everyday life; they require minimal social adjustment but together can cause significant stress

**dispositional factors:** relatively fixed traits which determine how a person thinks, feels and behaves in a wide range of different situations, for example personality traits like extroversion, aptitude abilities such as non-verbal reasoning

**uplifts:** events that trigger positive emotions including feelings of contentment, peace, satisfaction and/or joy

**DAILY HASSLES AND UPLIFTS**

In 1981, Allen Kanner and colleagues noted that research into the correlation between life events and illnesses is weak. They suggested that perhaps it is not these relatively serious but infrequent events that cause us the most stress. Instead, they suggested that researchers should consider the cumulative effects of the less intense, more frequent frustrations we face in our everyday lives. They also stated that the impact of these **daily hassles** or microstressors may be offset by our ability to take pleasure in the simple, smaller things in life. Kanner et al. (1981) called these positive events **uplifts**; although they differ from person to person, they might include things like good weather, time with pets or receiving a text from a friend.

One reason life events may cause us stress is that they trigger changes in everyday life that might mean we face more daily hassles and fewer opportunities for uplifts (Hinkle, 1974). For example, moving house may mean that you cannot find possessions that you need (a daily hassle) and you no longer chat to your neighbour (an uplift), who may also have been an important source of social support.

Daily hassles may be due to situational or **dispositional factors**, frequent or infrequent. An unexpected phone call that disturbs our favourite television programme is irritating but unusual, whereas frustration caused by low-level noise from neighbours or traffic may be a more consistent problem, especially for people who find it more difficult to concentrate and/or filter irrelevant stimuli. The way we interpret such hassles may also add to the level of stress they cause. If we feel guilty or inadequate when we become frustrated by external noise, this will intensify the stress. Research suggests that timing, repetition, frequency, duration, and whether hassles are expected or unexpected, all affect the level of stress they create.

There have been several suggestions regarding how and why uplifts may help protect us against the ill-effects of daily hassles. Firstly, they may provide an emotional buffer, meaning negative emotions caused by hassles are less impactful. They have also been described as:

- 'breathers' (Lazarus et al., 1980) which provide a break from the negative emotion
- 'sustainers' that help us to 'carry on coping'
- 'restorers' that help to replenish depleted resources that allow us to recover from negative experiences (Kanner et al., 1981).



Free time listening to music and playing with pets may provide just the uplift you need to counteract the daily hassles of homework and school. What uplifts have you had today? ▶

### MEASURING HASSLES AND UPLIFTS

Kanner et al. (1981) measured hassles and uplifts using a self-report questionnaire. These items related to different aspects of everyday life, including work, health, family, friends, the environment, practicalities and chance events, for example misplacing or losing things, troublesome neighbours and concerns about money. Respondents were asked to circle any of the 117 hassles and 135 uplifts that they had experienced within the last month. They then had to score the severity of these hassles on a scale of one to three, where one indicated somewhat severe, two indicated moderately severe and three indicated extremely severe. For the uplifts, they were asked to rate each item from one to three to indicate the frequency of each uplift, for example somewhat often, moderately often and extremely often.

### EVALUATION OF DAILY HASSLES AND UPLIFTS

Kanner et al. (1981) conducted a ten-month longitudinal study examining relationships between hassles, uplifts, life events and psychological symptoms with a sample of 100 adults aged 45–64. They found that frequency and intensity of daily hassles accounted for significantly more of the variance in psychological symptoms than life events, underlining the importance of more minor stressors when predicting well-being. This is interesting as it supports the view that the reason for the correlation between life events and impaired health and well-being may be due to the increase in daily hassles caused by major life events. However, the same study indicated that although the frequency of hassles and uplifts seems to be similar over time, the intensity with which they are experienced (that is, the amount of distress or pleasure they create) is variable. This suggests that when we are experiencing poorer mental health, the intensity of the distress caused by daily hassles may increase.

One problem with Kanner's research is that the sample lacked diversity; participants were typically able-bodied, white, Protestant, relatively wealthy and well-educated. Kanner notes that although middle-class people do not usually differ significantly in the overall number of life events faced, people from less wealthy backgrounds tend to face more severe life events. This suggests that the findings regarding the significance of daily hassles and/or uplifts compared with life events should be generalised with caution. Also, Kanner et al. (1981) only measured symptoms of mental health problems such as depression and anxiety. However, research by Anita deLongis et al. (1982) shows that the findings are the same regarding the relationships between daily hassles, life events and physical health problems.

### INDIVIDUAL DIFFERENCES, INCLUDING PERSONALITY TRAITS, TYPE A PERSONALITY AND LINKS TO STRESS

Individual differences are the relatively stable and measurable aspects of a person which help to distinguish them from others, for example intelligence, extraversion (being outgoing and sociable), self-esteem or optimism. We often refer to these differences as traits and they can affect how we routinely deal with stress. For example, some people display a more avoidant coping style, preferring to ignore the problem or try to distract themselves. Others take a more practical solutions-focused approach. Differences in coping styles may result from differences in personality, which can be linked to both genetic and environmental influences.

### TYPE A PERSONALITY

In the 1950s, cardiologists Meyer Friedman and Ray Rosenman reported the findings of a study which suggested that people with certain personality traits, including being excessively driven and ambitious, may be more vulnerable to coronary heart disease (CHD) (Friedman and Rosenman, 1959). They called this set of traits the Type A personality (see Table 15.3) and believed that it predisposed people to this potentially fatal condition, which may be linked to the excess pressure on the cardiovascular system caused by the stress response.

TABLE 15.3: TYPE A PERSONALITY TRAITS

Trait	Description
Goal-oriented	They are constantly busy, often focusing on multiple and diverse self-selected (but sometimes poorly defined) goals; they display excessive drive and determination.
Time-conscious	They can become impatient/restless when tasks take longer than expected or they have to wait for something or someone; they seem to be constantly working towards restrictive deadlines.
Dominant	They prefer to be in a position of power and are driven by opportunities to gain social status and recognition from others.
Competitive	Colleagues, friends and even family members may be treated as rivals as the person strives to be the best and outdo others.
Alert	Extremely high levels of mental and physical alertness.
Hostile	Unfriendly, argumentative and oppositional behaviour can escalate quickly, especially if the Type A person feels their efforts to obtain their goals are being disrupted.

Friedman and Rosenman (1959) referred to people who do not possess the Type A traits as Type B. These people are believed to be lacking in drive, ambition, a sense of urgency and are not at all competitive. Finally, Friedman and Rosenman identified a Type C personality – these individuals are similar to Type B but have high levels of trait anxiety. However, Type C is now more commonly described as nice, conventional, patient people who sacrifice their own needs to help others and tend to suppress rather than express negative emotions such as anger.

**SKILLS****CREATIVITY, CRITICAL THINKING****ACTIVITY 3**

Write a detailed description of a character for a new television hospital drama about surgeons. The new chief of surgery is a classic Type A personality. How would you describe this person? What are their relationships like with the staff, the patients and their own family members? Sketch out a few scenes from the pilot episode which will give the audience a perfect insight into how a Type A personality might affect a person in the workplace and in their home life.

Friedman and Rosenman (1959) state that Type A individuals can be identified through their 'excessively rapid body movements, tense facial and body musculature, explosive conversational intonations, hand or teeth clenching, excessive unconscious gesturing, and a general air of impatience' (page 97). What do you think this type of person might think about coping strategies such as mindfulness meditation? ▶



### THINKING LIKE A PSYCHOLOGIST

Why do you think Friedman and Rosenman assigned each participant an individual code number when asking them to complete food and drink diaries?

### EVALUATION OF TYPE A PERSONALITY

Evidence to support the link between Type A personality and coronary heart disease comes from the Western Collaborative Group Study (WCGS), an eight-year longitudinal study of over 3500 American men aged 39–59 (Friedman and Rosenman, 1974). Impatience, competitiveness and hostility were observed and discussed during structured interviews at the beginning of the study. The data was used to categorise the men as either Type A1 (fully meets Type A criterion), A2 (partially meets Type A criterion), Type B and X, meaning the men had an equal balance of Type A and B traits. Eight years later, CHD symptoms were assessed. Of the 257 who were diagnosed with CHD, Type A men outnumbered Type B two to one. Type A men were five times more likely than Type B to have had two heart attacks during the 8.5-year study period. Twenty-five men had died of CHD during the study, 88 per cent of whom were Type A personalities. These findings appear to provide convincing evidence of the link between psychological variables and physical health problems.

Although studies of group differences cannot show cause-and-effect due to lack of random allocation to groups, the researchers did measure many other factors, including lifestyle choices such as diet, sleep and exercise. Many Type As who were light smokers or did not smoke at all were later diagnosed with CHD, while heavy smokers in the Type B group were not. This is yet more evidence to suggest that psychological variables including personality may be predictors of physical health outcomes (Friedman and Rosenman, 1959).

However, the relationship between Type A personality and CHD has been disputed due to various failed replications. Today, researchers tend to accept that specific Type A traits such as hostility and impatience are better predictors of CHD than the complete set of Type A personality traits.

More recently, research has suggested that individuals with Type A personalities report more uncontrollable and unpredictable life events (Järvinen and Härkäpää, 1988). Furthermore, people who are highly impatient are more likely to use avoidant-coping strategies (Lee, Ashford and Jamieson, 1993) and are more likely to engage in high-risk, dangerous and aggressive behaviours as a reaction to stress (Korotkov et al., 2011; Wang et al., 2018). This suggests that the link with poor health may be mediated by other factors.

Furthermore, people with Type A personalities are likely to experience a greater number of daily hassles. Personality traits such as impatience and competitiveness mean they are more likely than Type Bs to feel thwarted by minor stressors such as traffic jams and queues (Chen et al., 2014). These microstressors may cause them to become more stressed than other personality types, increasing risks to health due to the more frequent release of stress hormones. The ambitious nature of Type As also means that people with this personality type are likely to find themselves in more demanding jobs. Workplace stress may therefore be greater due to responsibility for others.

### KEY TERM

**social inhibition:**

tendency to limit emotional expression

### WIDER ISSUES AND DEBATES

**Development of personality factors over time**

Over time, psychologists have taken a more comprehensive approach to the study of personality factors and how they might be related to health outcomes. For example, in the 1990s, Johan Denollet and colleagues identified the Type D personality (the D refers to distressed or disease-prone). Type D personality has two main traits: high levels of negative emotions and **social inhibition**. Like Type A, people with this personality type are more vulnerable to CHD than other personality types. Mortality risk following a heart attack was 39 per cent for Type D compared to just 5 per cent in people with other personality types ( $p < 0.0001$ ).

**KEY TERM**

**social support:** the reassurance, comfort and help that a person receives from other people that they know, including friends, family, carers, neighbours and community groups

**SOCIAL SUPPORT, INCLUDING FAMILY, FRIENDS AND COMMUNITY**

**Social support** refers to the reassurance, comfort and help that a person receives from other people that they know, including friends, family, carers, neighbours and community groups. Social support can be found in formal, recognisable social groups such as choirs, prayer groups, sports teams and other people with whom we share similar interests, and/or more informally from people that we see regularly but don't know very well, such as our hairdresser, a server or shop assistant.

Social support can help us to meet a range of different basic human needs, including feeling accepted and that we belong. When we feel connected to others and well supported, this can improve physical health, resilience, our quality of life and sense of well-being. Social support can be particularly important when we are trying to cope with changing demands and stressors in our lives. Mark Schaefer (1981) identified three types of social support (see Table 15.4) but these often cross over. For example, when a person provides instrumental support, the recipient may also feel that this is a sign that the person cares about them enough to invest time and effort in them. This means they are also receiving emotional support, even if the person does not show much emotional warmth.

TABLE 15.4: TYPES OF SOCIAL SUPPORT (SCHAEFER, 1981)

Type of social support	Description	Example
Instrumental support	Helping by providing information, advice or physical/material items	Lending money, making food, helping with transport (giving someone a lift/ride in their car)
Emotional support	Offering reassurance and comfort; showing empathy	Giving hugs, letting the person know they are loved
Esteem support	Helping the person to build their self-efficacy, or self-belief about their ability to cope	Letting the person know that you are confident that they will get through this situation

If you feel anxious about lack of social support, share your worries with a teacher or course leader who will take the time to listen and find strategies to help you.

**LINKS**

Positive interactions with friends, family, colleagues and even strangers can sometimes be a source of uplifts. These uplifts provide a protective emotional buffer against daily hassles. This may also explain why some people, especially those with a more limited social network, enjoy retail therapy, where they are able to interact with sales assistants and other shoppers (see page 215). Revisit page 197 to refresh your memory about the research on uplifts.

**EVALUATION OF SOCIAL SUPPORT**

Schaefer's distinction between differing types of social support is evidenced in a qualitative study conducted by Surabhi Sahay and Wan Wei (2022). They conducted a thematic analysis on the transcripts of 24 semi-structured interviews with nurses who cared for critically ill patients during the initial stages of the COVID-19 pandemic, a time when information about treatment was changing hour by hour, creating an intensely stressful working environment. As the nurses faced burnout, they turned to each other for emotional support and avoided sharing concerns with their families to protect them from further stress. They hugged each other, saying things like 'This is from your son', as many nurses were physically isolated from family members.

**KEY TERMS****invisible support:**

practical or emotional help from others which has a positive impact without the person realising

**norm of reciprocity:** the expectation that favours, gifts and offers of help, for example, will be returned

Misinformation online meant regular instrumental support from their workplaces was essential. Information provided at 'daily huddles' increased the nurses' confidence and decreased their uncertainty. This research is important as it demonstrates the critical role of different types of social support for employees, including support for their families.

Further evidence for the critical role of social support in moderating the impact of major stressors is supplied by George Brown et al. (1986). Lack of social support from someone close to you (for instance, husband or mother) at the time of a negative life event significantly increased the probability of developing depression. Who provides the support seems particularly important, as support from people other than those close to you did not significantly reduce the risk of depression. People who felt 'let down' by people they perceived as part of their social support network were at particularly high risk of depression following a stressful life event. This is an important study that highlights the importance of who the support comes from, when the support is provided and whether support was expected.

Despite Brown's focus on perceived support, Neill Bolger et al. (1958) drew attention to the role of **invisible support**. This refers to helpful behaviour from others which has not been recognised by the individual but still has a positive effect. This might include any of the types of support identified by Schaefer. For example, Bolger et al. asked couples to complete daily diaries of support given and received from their partner. Often support was recorded as having been given by one partner but unnoticed by the other; however, Bolger et al. noted in their analysis that often it seemed to be the invisible support that was more effective than visible support, in terms of helping with adjustment to major stressors. They argued that there can be an emotional cost to receiving support which offsets the extent to which the support reduces stress. For example, if the person is predisposed to low self-esteem, they may interpret offers of support as an indication of personal inadequacy. Also, in many cultures, the **norm of reciprocity** means people may feel obliged to return the support they have received, leading to feelings of guilt and/or indebtedness.

**SKILLS****PROBLEM SOLVING****ACTIVITY 4**

How would you design a study to test the impact of invisible and visible social support on the HPA axis? Think about how you would operationalise your variables (make them measurable). How would these decisions affect the credibility of your findings? Do you think invisible support has the same health and well-being benefits as visible support? Write a hypothesis to reflect your thoughts.

**LINKS**

The contemporary study by Nakonz and Shik (2009) (see pages 234–236) showed migrant workers coming together as part of religious organisations to provide emotional, instrumental and esteem support to one another. You could use this study to discuss factors affecting stress.

**WIDER ISSUES AND DEBATES****Culture and gender issues in psychological research**

Evidence suggests that physical availability of social support doesn't always lead to positive outcomes with regard to reducing stress. In fact, living in extended family groups can have differing effects on different generations within the same family. However, these findings may be affected by cultural differences. For example, British Muslim and Hindu mothers had worse mental health when living with their mothers (extended family) than women who did not live with their mothers (nuclear families). However, grandmothers had better mental health (less anxiety and depression) and children had fewer behavioural problems when living together than those who did not live together (Sonuga-Barke and Mistry, 2000). This suggests that proximity with grandparents may benefit some family members more than others. However, this may depend on the type of support given by grandmothers to mothers. For example, unwanted informational support/advice may increase stress, and lack of emotional support despite living in close proximity might heighten distress in a crisis. This suggests that further research into the role of social support and family structure in diverse communities is required to understand support needs, especially in bicultural individuals.

**LINKS**

See page 198 for further information on coping strategies.

Finally, it should be noted that the interaction between social support and subsequent stress symptoms is complicated and affected by the coping strategies employed by both the individual seeking support and those providing it. Social interactions characterised by the stressed person venting negative emotions and the supporting person/people reinforcing these emotions through agreement and sharing of similar situations may not be as effective as social support in which people share in activities that promote positive emotions, engage in joint problem-solving, or discuss alternative perspectives on the issue.



Social support from the right people, at the right time, can significantly reduce the ill-effects of stress. Can you think of any times when social support might make the person worse rather than better? ➤

**CHECKPOINT**

1. What is the direction of the correlation (positive or negative) between life events and illness?
2. In the Holmes and Rahe stress scale, which life event scores the highest number of life change units?
3. From the study by Woon et al. (1971), can you name any of the life events that received higher life change unit scores from the Malaysian medical students than the American participants?
4. How might life events and daily hassles be linked?
5. What did Kanner et al. (1981) find out about the relationship between daily hassles and mental health symptoms?
6. Can you name three traits associated with the Type A personality?
7. How did Friedman and Rosenman (1974) classify their participants?
8. Why might Type A individuals experience more daily hassles?
9. What is the difference between emotional and instrumental support?
10. What were the main findings of the study by Sonuga-Barke and Mistry (2000)?

**SKILLS**

ANALYSIS, REASONING/  
ARGUMENTATION,  
INTERPRETATION, EMPATHY/  
PERSPECTIVE TAKING

**EXAM PRACTICE**

1. Define what is meant by daily hassles, with reference to one example. (2 marks)
2. Explain two strengths of research into the Type A personality and how it links to stress. (4 marks)
3. Zola wants to conduct a focus group with teachers who qualified during the COVID-19 pandemic. She wants to talk to them about their experiences of online learning during the lockdowns. Specifically, she wants to investigate how social support helped them to cope during this time.
  - a) Explain one or more practical issues that Zola will need to consider before, during and/or after collecting her data. (2 marks)
  - b) Explain one way Zola could analyse the qualitative data collected during her focus groups. (2 marks)
4. Destiny has recently been promoted. Although she is proud of this achievement, she is feeling stressed by the additional pressure. She has also recently found out that she is pregnant. She and her husband are very excited by this but Destiny is waking up every night feeling stressed. Everything is going well in her life, but she is worried about managing her job and becoming a mum. Discuss life events as an explanation of Destiny's stress. (8 marks)

# CHAPTER 16 COPING STRATEGIES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- appraisal-focusing, problem-focusing and emotion-focusing
- positive techniques for managing stress:
  - physical activities/exercise
  - creative activities
- negative techniques for managing stress:
  - comfort eating
  - retail therapy.

## GETTING STARTED

In March 2020, the COVID-19 pandemic triggered national lockdowns across the world and billions of people were forced to adapt to an extreme set of circumstances. Many people began working from home, while those who worked in essential services put their lives at risk each day, often isolating themselves completely from vulnerable family members. Schools were closed, exams were cancelled, and in many countries there was an expectation that parents would juggle work and home education for their children. Everyday coping skills were put to the ultimate test as lockdowns turned from weeks to months, with no end in sight.

- Get together with some classmates and make a list of common problems affecting families during the lockdowns. Think about how these stressors might have affected family members in different ways.
- As a group, think about what coping actually means. Is it possible to measure how well someone is coping? What problems might arise when measuring coping techniques?

Remember, this was an extremely difficult time for many people. Some families were under greater pressure than others, especially those including relatives with pre-existing mental and physical health problems and/or other difficulties. Exchange ideas sensitively and don't assume everyone's experiences were the same.

Public health workers visit an elderly disabled man during lockdown to check on his well-being. How might coping styles differ between people of different generations? ►



**KEY TERMS**

**appraisal-focusing:** a coping strategy which involves re-evaluating a situation in a more objective and optimistic way; there is no attempt to change the situation, only to change your interpretation of the situation, including the increased probability of positive implications/outcomes

**problem-focused coping strategies:** stress management strategies that involve eliminating the stressor or decreasing its impact

Sometimes we find ourselves in situations that trigger negative emotions such as anger or fear. Under these circumstances, emotions may feel overwhelming and we may feel that we don't have the resources to continue functioning as effectively as usual. At this point, a person's coping style determines how they respond to the stressor. Coping styles refer to habitual ways of managing stress, for example approaching or avoiding problems. These styles are often based on aspects of our personality and upbringing, and remain fairly consistent from one situation to another.

Coping strategies, on the other hand, are more changeable depending on the nature of the stressor, and refer to conscious and deliberate efforts to reduce uncomfortable emotions. They involve a variety of tools and techniques designed to modify thinking and behaviour, and restore a sense of balance and well-being. In the next section you will learn about three coping strategies, focusing on changing thoughts, actions and emotions. In practice, a person may use more than one of these techniques to deal with the same stressor. It can be difficult to identify which strategy is being used as they tend to interact with each other and are also difficult to measure objectively.

### APPRaisal-FOCUSING

**Appraisal-focusing** involves changing the way that a person thinks about or interprets stressors. As stress results from a mismatch between the perceived demands of a situation and the person's perception of their ability to cope, this suggests that a change of perspective may quickly help to reduce stress symptoms. These strategies differ from **problem-focused coping strategies** as there is no attempt to actually change the situation, just to interpret it differently, in a more positive or objective way.

Appraisal-focused strategies are based on the cognitive approach as there is an assumption that changing the way we think and process information about the stressor can cause changes in feelings and behaviour. For example, if the person focuses on different aspects of the situation, they may change their opinion and see it as an opportunity rather than an obstacle or threat. An initially negative situation may now be seen in a more positive or optimistic light.

Here are two specific examples of appraisal-focused strategies.

- Changing your goals: if the situation means that you are unable to achieve a certain goal, setting a different and achievable goal may reduce negative emotions associated with failure.
- Humour: if/when negative emotions are escalating, humour can provide an unexpected or less serious way of thinking about the stressor; it can help to create psychological distance and defuse negative emotions before they become overwhelming.

### THINKING LIKE A PSYCHOLOGIST

What factors might influence the effectiveness of humour as a coping strategy? Once you have read about emotion-focusing and problem-focusing, you may be able to think about how and why humour may be more or less effective.

In situations where it may not be possible to eliminate the stressor, thus ruling out the possibility of problem-focusing strategies, appraisal-focusing may be a good alternative to emotion-focusing. Here, the difference is that changing the way we think should change the way we feel and react, whereas with emotion-focusing, changing the way we feel is believed to help the individual to think differently.

**KEY TERMS**

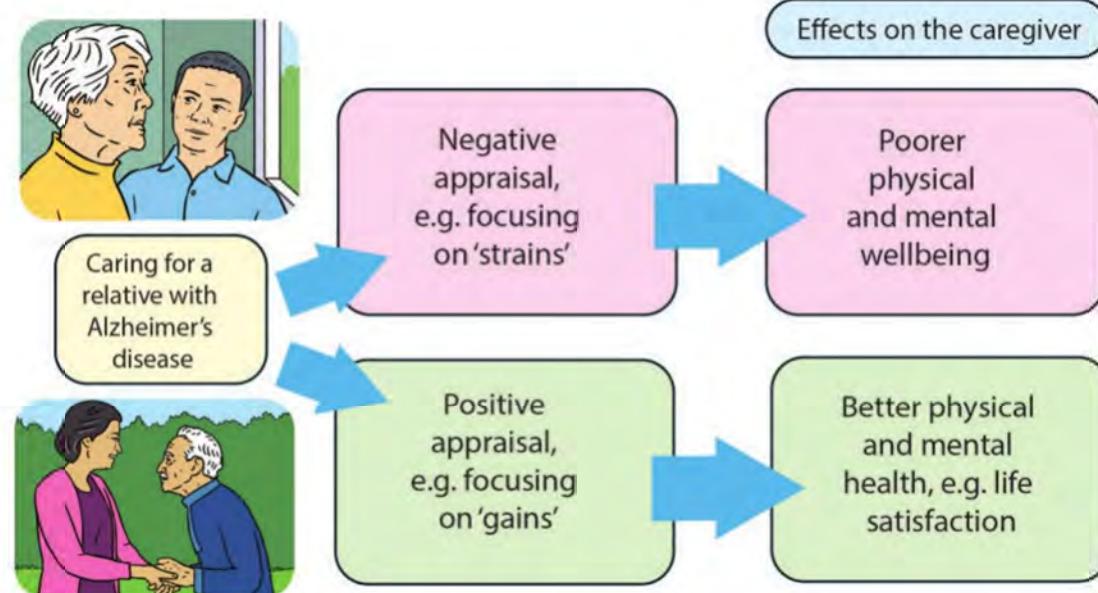
**negative appraisal:** a pessimistic interpretation of a situation which emphasises unfavourable, threatening or harmful implications, and minimises the possibility of favourable outcomes; typically leads to negative emotions or stress

**positive reappraisal:** a more objective re-interpretation or re-evaluation of a situation previously seen in a more negative light; a recognition of possible positive implications/outcomes which helps to reduce stress and increase positive emotions

**EVALUATION OF APPRAISAL-FOCUSING**

A qualitative study conducted by Sameera Senanayake et al. (2019) used semi-structured interviews and thematic analysis to investigate coping strategies in 11 patients diagnosed with idiopathic pulmonary fibrosis (IPF), a chronic illness with a life expectancy of 2–5 years. Patients talked about changing their perspective, which allowed them to accept their condition, and develop optimism and determination to live the remainder of their lives to the full. One example was a man who bought a football season ticket for the following year even though he knew the chance of being able to use it was very low. The researchers suggest that combining appraisal and emotion-focused coping in the early stages of diagnosis allowed patients to make better use of social support and problem-focused coping in the future.

Further support for the role of appraisal-focusing comes from a study by Carmen Morano (2003). She studied coping strategies used by relatives caring for people with Alzheimer's disease. She found that **negative appraisal** mediated the impact of caregiving on physical and mental well-being, supporting the idea that it is not the situation itself but the way that we interpret it that causes stress symptoms. Negative appraisal (focusing on the strains) was associated with poorer physical and mental well-being. However, Morano found that positive appraisal (focusing on the gains) moderated the effects of caregiving on life satisfaction and sense of personal gain. This suggests that supporting carers to develop **positive reappraisal** may help to limit burnout and sustain quality of life for both relatives (see Figure 16.1). The ability to generalise these findings may be limited due to the over-representation of women and the fact that 43 per cent of this sample were Hispanic. Traditionally, Hispanic cultural values were seen to include the following concepts: family loyalty and support, social harmony, respect for others and accepting one's fate. If these concepts do apply in this case, then they may impact the way that a person appraises the role of caregiver, especially when the patient is a parent, spouse or sibling.



► Figure 16.1 The well-being of relatives caring for people with Alzheimer's disease was linked to negative appraisal and positive reappraisal

**KEY TERMS**

**Chinese Tao cognitive therapy (CTCP):** a culturally relevant form of cognitive behavioural therapy, which incorporates aspects of Tao philosophy and traditional Chinese medicine

**neurodiversity:** natural variations in the way that the human brain works, including autism, dyslexia, ADHD

**THINKING LIKE A PSYCHOLOGIST**

Investigate the meaning of the cultural values listed above. You may like to think about the extent to which you and your family hold these values. How do you think each value might affect the appraisal of different stressors? Do you think the non-Hispanic people in Morano's study would appraise their caregiving role differently? How would cultural values determine whether caring was perceived as a burden or an opportunity?

Now think about one or two other types of stressor; these could be major life events or daily hassles. Are there situations in which cultural differences might make positive reappraisal more (or less) difficult?

Although positive reappraisal may be beneficial in helping individuals to reduce stress and benefit from other coping strategies, individual differences including aspects of culture (including religion), personality and **neurodiversity** may make this more difficult for some people than others. This means some people may require more structured and professional support than others in order to benefit from these coping strategies. For example, cognitive behavioural therapy (CBT) includes techniques such as cognitive restructuring and bias modification (see page 225). This therapy has been modified for use with people from different cultures. One example is **Chinese Tao cognitive therapy (CTCP)** which focuses on aspects of Taoist philosophy (see Figure 16.2).

Examples of Taoist principles which may be beneficial when re-appraising stressors:

- Benefiting without hurting others
- Acting without striving
- Restricting selfish desires
- Learning to be content
- Knowing how to let go
- Being in harmony with others and being humble
- Using softness to defeat hardness
- Maintaining tranquillity
- Acting less and following the laws of nature



▲ Figure 16.2 Ancient Chinese philosopher, Laozi (also known as Lao Tzu) was the author of the *Tao Te Ching*, the classic text of Taoism, estimated to have been written c.400 BCE with Zhuangzi

**PROBLEM-FOCUSING**

Problem-focusing coping strategies involve seeking out practical solutions that decrease the impact of the stressor or eliminate it altogether. People might search for information that will help them to think about the problem more logically, or source material items that

they need in order to manage their time more effectively. This could also include asking other people for instrumental support such as an expert peer or a professional. These coping strategies involve thinking in detail about what is causing the stress and fixing it. This approach reduces the symptoms of stress by directly or indirectly addressing the cause of the stressor.

## KEY TERMS

**emotion-focused coping:** regulating and modifying negative emotions to regain control over reactions to stressors

**glycaemic control:** maintaining healthy blood sugar levels, which is particularly important in the management of diabetes

**neuroticism:** a relatively fixed personality trait which describes the tendency to feel overwhelmed by negative emotions and to perceive situations as threats

## EVALUATION OF PROBLEM-FOCUSING

These strategies provide longer-term relief compared with **emotion-focused coping**. Typically, research has shown that adopting problem-focused coping strategies is associated with greater reduction in stress symptoms than adopting emotion-focused coping. For example, Kate Duangdao and Scott Roesch (2008) conducted a meta-analysis to examine whether problem-focusing or emotion-focusing was more effective in reducing anxiety, depression and **glycaemic control** in people with diabetes.

Overall, they found that problem-focusing was associated with significantly better outcomes on all three measures, whereas emotion-focused tended to help more with anxiety and depression rather than specifically targeting the diabetes-related health outcomes (glycaemic control). This said, over the longer term, improvements in health status should reduce the overall level of stress. One problem with this study is that it only looked at stress caused by a chronic health condition that can be improved through lifestyle choices (such as improved diet and exercise). This suggests that problem-focused coping may be less effective in situations in which the stressor is uncontrollable. In fact, research suggests that, in these situations, problem-focused coping strategies can be associated with higher emotional distress (Osowiecki and Compas, 1998). Dana Osowiecki and Bruce Compas argued that it is the interaction between perceived control and coping strategy that predicts stress symptoms, rather than the coping strategy alone.

This means that anything that can be done to help a person to recognise the aspects of the stressful situation that are within their control could be beneficial, as this will mean problem-based coping can be used effectively over the longer term. For example, Even Halland and colleagues found that teaching medical students to use mindfulness allowed them to make better use of problem-based coping strategies. The researchers believe that mindfulness may have helped the students to see previously stressful events as manageable challenges, through redirecting attention and helping them to focus on the present and avoid unhelpful conclusions about the future (Halland et al., 2015).

This suggests that as the students began to think more clearly and recognise that they were in control of the situation, they were able to benefit from practical solutions to manage their workload and the pressure to perform, as well as developing confidence in meeting and treating patients. The students that found this approach most beneficial were those with higher **neuroticism** scores, suggesting that individual differences can interfere with the effectiveness of certain coping strategies for some people more than others.

In cultures characterised by religious faith, problem-focused coping may be less common as individuals are more likely to perceive a stressful situation as predestined and use strategies such as acceptance and redefining the situation as an opportunity for spiritual growth (see page 235) (Nakonz and Shik, 2009). This means that course leaders must try to think holistically about all aspects of the person's identity and personality when determining the best options for supporting their studies.

**KEY TERM****avoidant emotion-focused coping:**

passive strategies which minimise or suppress negative emotions, for example distancing yourself from the source of distress, distraction and/or behavioural disengagement, which may involve substance use

**EMOTION-FOCUSING**

Emotion-focused coping strategies aim to help the individual to regulate and modify their emotions in the face of daily hassles and other stressors. They do not remove the stressor or eliminate the problem, but instead help us to regain a sense of control over the way that we react or respond to situational factors that we cannot control. These strategies involve replacing feelings of distress with feelings of contentment.

The strategies can be divided into two categories: active emotion-focused coping and **avoidant emotion-focused coping**.

- Active strategies tend to be more adaptive, meaning that they have greater long-term benefits. Examples include seeking emotional support from others, writing in a journal, thinking about issues in a more positive way, mindfulness (see page 51) and other **positive techniques** such as exercise and creative activities.
- Avoidant strategies are described as more maladaptive. They are more passive and tend to involve denying or suppressing feelings, or distracting ourselves, meaning once we are no longer distracted, the stress symptoms resurface (Folkman and Lazarus, 1985). They may include **behavioural disengagement** and **substance use**, including vaping and caffeine.

**SKILLS**

SELF-REGULATION, ANALYSIS

**KEY TERMS****behavioural disengagement:**

withdrawing or giving up on active efforts to deal with stressors; can result in emotional detachment

**positive techniques:**

activities or strategies that reduce stress and promote well-being by increasing optimism and positive emotions

**substance use:**

consumption of substances which affect the way we think, feel and behave, such as vaping or caffeinated/energy drinks

**ACTIVITY 1****Appraisal-focusing**

- Changing the way we think about or interpret stressors; e.g. becoming more objective, optimistic
- No attempt to change the situation
- Changing thoughts can change feelings
- Useful when the problem is not within your control, so cannot be solved

**Problem-focusing**

- Seeking practical solutions that decrease the impact of the stressor or eliminate it altogether
- Searching for information
- Sourcing material items
- Managing time more effectively
- Asking for help

**Emotion-focusing**

- Help to regulate and modify emotions
- Do not help to remove or eliminate the problem
- Help to regain a sense of control over how we react or respond
- Active strategies are more adaptive; greater long-term benefits
- Avoidant strategies; less adaptive; denying or suppressing feelings or distracting ourselves



▲ Figure 16.3 Three ways of coping

Which of the strategies in Figure 16.3 do you use and when do you think each of them might be useful/necessary? Look at the images A to G and state which type(s) of coping they represent.

**LINKS**

See page 241 for the contemporary study by Russell et al. (2015). They divided stress reactions and coping strategies into five categories. Even if you are not intending to learn all the details of this study for the exam, it may be worth looking at it now as it explains more about voluntary and involuntary disengagement.

Seeking emotional support from others is another technique that reflects emotion-focused coping. This means you could also use material from page 209 to help you to answer exam questions on the topic of emotion-focused coping strategies.

**EVALUATION OF EMOTION-FOCUSING**

Strengths of emotion-focused coping include the fact that certain stressors are not problems that can be solved. For example, taking a problem-focused approach to grief is unlikely to be effective, whereas introducing activities into the day that will elevate mood and distract the person from intrusive thoughts may give the person a much-needed break.

However, emotion-focused strategies may be used in situations in which the stressor is within the person's control but they are unable to work out how to solve the issue, or they may need instrumental support (see page 201) from others to collaboratively work out ways of reducing the stressors rather than changing their reactions towards them.

Correlational research by Charles Carver et al. (1989) suggests that coping strategies may be influenced by individual differences. For example, people with an external locus of control (LOC) may be more likely to adopt emotion-focused coping strategies, as they are less likely to believe that their efforts to change the situation will be successful. In contrast, people with an internal LOC are more likely to adopt problem-focused strategies, as they expect to be more successful in their effort to manage stressful situations. This means that people with an internal LOC may find it particularly difficult to cope in situations which are outside their control, as their usual coping strategies may not be suitable.

**KEY TERM**

**burnout syndrome:** a state of physical and mental exhaustion resulting from chronic stress

Finally, research conducted in Australia by Rocio Rodriguez-Rey et al. suggests that in highly stressful occupations such as paediatric intensive care, **burnout syndrome** and post-traumatic stress disorder (PTSD) are more common in people who frequently use emotion-focused coping strategies compared with problem-focused coping strategies. This suggests that large organisations need to focus on supporting staff to develop problem-focused as well as emotion-focused strategies. However, it should be noted that the population studied in this research were exposed to chronic stress – multiple stressors over a long time.

The duration of the stressor may be an important moderating variable with regard to the beneficial effects of emotion-focused coping. For example, in a randomised control trial conducted by Sheung-Tak Cheng et al. (in Hong Kong, People's Republic of China in 2015), health care workers that kept a gratitude journal (an active emotion-focused strategy) reported fewer stress symptoms than the control group. However, the rate of decline in symptoms slowed over time. This study was particularly interesting as the researchers also found that the focus on positive emotions was key to the journaling activity, as there was no significant difference in level of stress experienced by the control group and a third experimental group who completed a daily hassles diary. However, as the participants in this study were a small group within a single location (Hong Kong), these results may not generalise to other countries or cultures.

## SKILLS

CRITICAL THINKING, CREATIVITY

## ACTIVITY 2

Design your own questionnaire to measure problem-focused versus emotion-focused coping. You should create a set of closed questions (e.g. Likert scales) relating to each type of coping. Try to include ten items for each type of coping. This will allow you to collect quantitative data and help you to categorise people with regard to whether their scores are higher for problem-focused or emotion-focused coping strategies. Research suggests that women are less likely to use problem-focused coping than men, and that men are less likely to use emotion-focused coping (Billings and Moos, 1981). You could test this gender difference for yourself using a chi-squared test. See Table 16.1 for a sample table.

TABLE 16.1: SAMPLE TABLE FOR A  $2 \times 2$  CHI SQUARED TEST FOR GENDER DIFFERENCES IN COPING STRATEGIES

	Coping strategy		Row totals
	Problem-focused	Emotion-focused	
Men			
Women			
Column totals			

## GENERAL EVALUATION

One problem with conducting research in this area is that the behaviours a person shows when under stress may fit into more than one category. This means that researchers may categorise the person's behaviour differently to the individual. This is because they may not have understood the intentions that triggered the behaviour. This demonstrates the importance of using not just closed questions when investigating coping strategies but also semi-structured interviews with open questions, where intentions can be explored in greater depth. Dana Osowiecki and Bruce E. Compas (1998) gave the example of a cancer patient who takes up physical exercise as a way of relaxing (emotion-focused coping); however their doctor perceives this as an example of problem-focused coping, thinking that the intention is to improve physical health so that they can fight the cancer more effectively.

## KEY TERMS

**allocentric:** prioritisation of group cohesion and harmony over individual goals, needs or preferences; relates to individuals within collectivist cultures; opposite of **idiocentric**

**idiocentric:** prioritisation of individual goals, values and preferences over those of the group; relates to individuals within an individualistic culture; opposite of **allocentric**

**rumination:** repetitive and/or obsessive thinking about negative emotions, experiences or problems

## WIDER ISSUES AND DEBATES

## Cultural issues in research

Health psychology can be ethnocentric, meaning that there is an assumption that research conducted in countries such as the USA and those in Northern Europe applies equally to everyone. There may also be assumptions that results apply to everyone within a culture when this may not be the case.

Paul Jose and Katherine Schurer carried out research into coping strategies in three groups of adolescents in Aotearoa/New Zealand: Māori (the Indigenous people of Aotearoa/New Zealand), Asian New Zealanders (ANZ) and European New Zealanders (ENZ). They found that **rumination** was more common in Māori and ANZ adolescents than ENZs, and that this was positively correlated with psychological maladjustment – the more they ruminated, the worse their mental health. This relationship was stronger for Māori adolescents who were more **idiocentric** in their values. However, a more **allocentric** outlook weakened the relationship between rumination and poor mental health in all three cultural groups. This suggests that ruminating may be a common response to stress in people who are more allocentric, but doesn't necessarily link to poor mental health outcomes. Research such as this is important, as it demonstrates the importance of considering not only cultural differences, but individual differences between people within a culture.

**KEY TERM**

**stress management techniques:** behaviours that are undertaken either to prevent stress, including positive techniques such as regular exercise, or to try and reduce the negative physical and psychological effects of stress

**POSITIVE AND NEGATIVE TECHNIQUES FOR MANAGING STRESS**

Patrycja Miedziun and Jan Czesław Czabała (2015) define **stress management techniques** as behavioural manifestations of coping strategies (Miedziun and Czabała, page 24). We will explore two negative and two positive techniques, all of which are claimed to reduce stress. However, positive techniques are associated with greater cumulative benefits (that is, the more you do these activities, the better the long-term effects), whereas the negative techniques if overused typically create more problems than they solve (that is, the more you do these things the worse the long-term outcomes). Stress management techniques may be used as part of a coping strategy but the term can also be used to refer to deliberate efforts to prevent stress through healthy eating, exercise and relaxation techniques, for example.

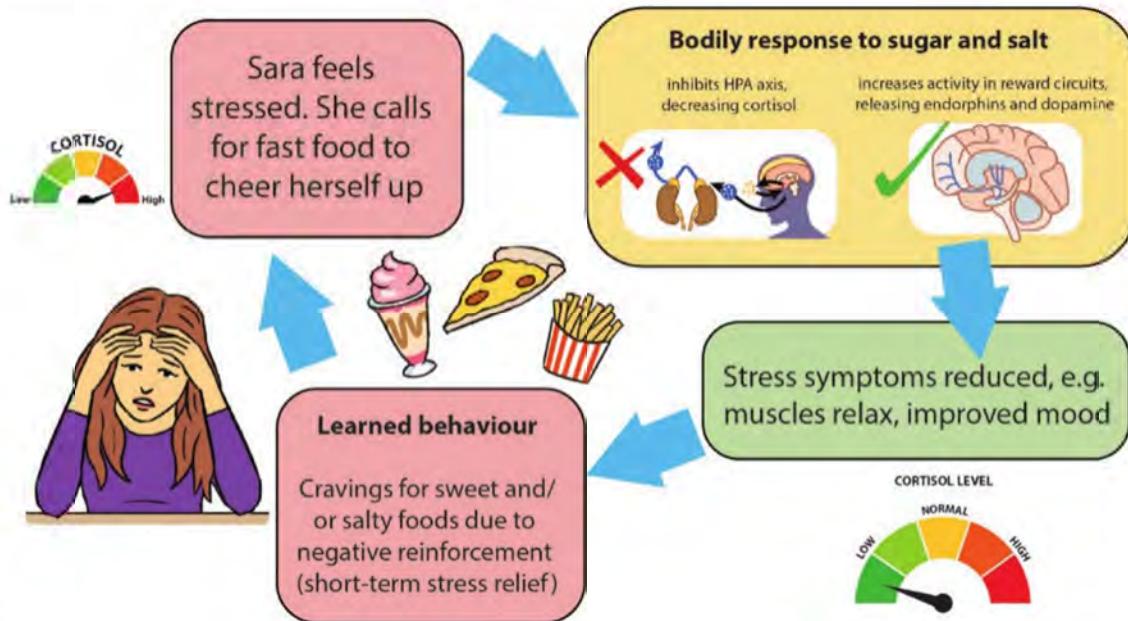
**NEGATIVE STRESS MANAGEMENT TECHNIQUES**

Negative techniques for managing stress include behaviours which may be dangerous, such as reckless driving, or that may be more benign, such as avoidance or procrastination. Here are two common techniques which may result in negative outcomes for health and well-being, financial security and relationships.

**Comfort eating**

Cravings for sweets, crisps and other junk food are common when we are stressed, and many people report that consuming these foods provides temporary relief. However, the health problems associated with regular consumption of these foods mean that long-term stress or comfort eating is a negative technique, which could increase rather than decrease stress.

One reason people crave sweet and salty foods when stressed is that both sugar and salt are thought to inhibit activity in the HPA axis, therefore decreasing cortisol levels and improving some of the associated symptoms such as low mood and muscle tension (see Figure 16.4). This is because sugar and salt increase activity in reward circuits in the brain, causing the release of endorphins and elevated levels of dopamine (Adam and Epel, 2007). Cravings for sweet and/or salty foods develop due to negative reinforcement, as these foods reduce the aversive feelings associated with stress and increase feelings of pleasure and contentment.



► Figure 16.4 Comfort eating is an emotion-focused coping strategy; it may help you to feel better in the short term, but over time a healthy diet will make a much more positive difference!

Comfort eating is also thought to be linked with disruption of normal functioning in the hypothalamus. For example, high levels of cortisol can stimulate the release of ghrelin, a hormone which makes us feel hungry and motivates us to eat. High levels of cortisol can therefore encourage the body to unnecessarily consume more food than we need. It can also reduce sensitivity to leptin, the hormone which signals that we have eaten enough and inhibits hunger.



Making healthy choices can be difficult when we are stressed; cortisol stimulates the release of ghrelin, making us hungry for high-calorie foods

#### KEY TERM

**bidirectional ambiguity:** uncertainty about which (if either) co-variable is the cause of changes in the other co-variable

#### Evaluation of comfort eating

Evidence to support the relationship between stress and comfort eating comes from a correlational study conducted by Nathalie Michels et al. (2013). The researchers measured salivary cortisol in 323 Belgian five- to ten-year olds. They found a significant positive correlation between cortisol and preference for sweet and fatty snacks compared with fruit and vegetables. This suggests that hormonal changes resulting from activation of the HPA axis may contribute to cravings for sugar and salt. However, this study was correlational, leading to **bidirectional ambiguity** – higher intake of unhealthy snacks may increase stress and subsequent cortisol release, rather than the other way around.

However, an experimental study by Matthew Tyron et al. (2015) indicated that sugary foods may indeed reduce HPA axis activity, supporting the negative reinforcement explanation of comfort eating. Nineteen women drank sweetened tea three times a day for two weeks. They were randomly allocated to either the sugar group or an artificial sweetener (aspartame) control group. The sugar group showed significantly lower cortisol levels than the aspartame group ( $p = 0.024$ ). This also helps to explain why weight gain is associated with chronic stress due to excess sugar intake, which can complicate matters as many of the symptoms are similar to those of stress, such as irritability and fatigue. Furthermore, weight gain may lead people to become even more anxious as they worry about their weight and potential health implications.

**KEY TERM**

**compensatory control:** a theory which states that when people are unable to control certain aspects of their lives, and are experiencing stress, they may seek opportunities in which they are able to exercise control over their environment

**Retail therapy**

The term retail therapy refers to another common reaction to stress – shopping! More specifically, Minjeong Kang and Kim Johnson define retail therapy as shopping to alleviate negative moods (Kang and Johnson, 2011). The theory of **compensatory control** (Kay et al., 2009) suggests that people are motivated to restore control when faced with stress, uncertainty, fear or anxiety. Shopping allows them to gain control through making choices to buy or not to buy. New purchases may make them feel empowered, increasing self-esteem and a subjective sense of well-being.

Specifically, the term revenge consumption has been used to describe the purchase of expensive and/or luxury items, following setbacks and during events where individuals are restricted in other areas of their lives. Sanghee Kim and Julie Chang (2023) give examples of the rise in sales of designer fashion, golf equipment and cars in Korea during the COVID-19 pandemic.

However, retail therapy is a classic example of a negative stress management technique. The positive effects are typically short-lived and can lead to negative emotions if the person makes impulse (unplanned) purchases which they later regret. Shopping may provide short-term distractions but does not equip the individual to reduce the source of stress in the long term. In fact, shopping for unnecessary items can increase clutter and worsen financial strain factors, adding to rather than decreasing stress.

**Evaluation of retail therapy**

Experimental evidence to support the compensatory control theory of retail therapy comes from a study by Scott Rick et al. (2014). Participants were asked to choose a product that they would like to purchase from a small selection in an online task. They were then told that a random number would be generated. Half the participants were told that the number was even, meaning they could keep the product they chose. The other half were told that the number was odd, meaning the computer would select a product for them. Everyone was, in fact, given the product that they wanted.

The researchers found that those who believed they had chosen the product for themselves experienced a greater reduction in negative emotions than those that believed they had no control over which item they received. This supports the idea that deciding what to buy is more important than the actual purchase. However, the study lacks ecological validity as the participants were given a \$5 budget, so the money was not their own and the products were low value in comparison with the high-value items that were popular during the pandemic research conducted by Kim and Chang (2023).

One of the problems with studying retail therapy as a stress management technique is that most of the research involves the use of self-reports, such as the questionnaire developed by Minjeong Kang and Kim Johnson (2011). The 22-item retail therapy scale was developed from a vast amount of interview data and helps to differentiate the concept of retail therapy from the related concept of compulsive buying, which Kang and Johnson concluded was separate. However, self-reports are subjective and can only measure the participants' conscious awareness of their reasons and emotions relating to shopping and mood. More objective measures of the effects of retail therapy on HPA axis activity would help to determine whether this stress management technique is actually effective in reducing cortisol levels. For example, Clow and Fredhoi (2006) demonstrated that a brief lunchtime visit to a London art gallery reduced salivary cortisol and self-reported stress in city workers, suggesting that aesthetic experiences can provide short-term stress relief, without the need to make purchasing choices.

## POSITIVE STRESS MANAGEMENT TECHNIQUES

### Physical activity/exercise

Many people find that physical activities such as yoga, aerobics classes, running and going to the gym help with stress management. There are a number of possible reasons for this. For example, Bonnie Berger (1994) suggests that physical exercise can improve mood, self-concept and self-esteem, and decrease stress reactivity. This is in part due to effects on neurochemistry, including decreasing stress hormones such as adrenaline and cortisol, and increasing endorphins, a brain chemical which decreases pain and increases feelings of pleasure and well-being.

Berger also states that improvements in mood only occur if the specific form of physical exercise is enjoyable to the individual. This is because low enjoyment decreases motivation, meaning people are less likely to adhere to their exercise goals. However, she does state that stress reduction benefits are more common in aerobic exercise (for example, running and cycling), which encourages rhythmical abdominal breathing (Berger, 1994). These activities are also closed and predictable, that is involving the same repetitive movements, and may reduce stress through facilitating mindfulness, which may trigger functional connectivity in brain regions linked to managing emotions and regulating stress.

#### SKILLS

#### CRITICAL THINKING

### ACTIVITY 3

Bonnie Berger discusses the need for further research into different types of physical exercise in relation to stress reduction. What are your thoughts about the likely benefits of competitive versus recreational sport, and aerobic exercise versus anaerobic exercise, such as weight lifting? How would you design a study to measure the effects of different activities on HPA axis activity, physical health and quality of life? How could you objectively measure changes in brain function, for example?

### Evaluation of physical activity/exercise

Evidence to support the benefits of physical exercise as a way of decreasing symptoms of stress, anxiety and depression is mounting. In fact, the National Institute for Health and Care Excellence (NICE) now recommends group exercise with a trained practitioner as a first line of treatment for mild to moderate depression, which may reflect its ability to increase serotonin levels through decreasing cortisol.

An enormous cross-sectional study conducted by Sammi Chekroud et al. (2018), including data from 1.2 million people, found that people who exercised had 43 per cent fewer days of poor mental health than a matched control group. The best forms of physical exercise for reducing mental health symptoms were popular team sports, cycling, and aerobic and gym activities. Duration and regularity of exercise were also important, with 45 minutes three to five times a week leading to the greatest improvements.

### Creative/artistic activities

Activities such as drawing, painting and clay sculpting can significantly reduce stress, as demonstrated by numerous studies measuring the effectiveness of art therapy for patients facing stressors relating to medical conditions (Lawson et al., 2012), war (Huss et al., 2010) and other traumatic experiences (Sarid and Huss, 2010). Creative activity requires focus and it is this aspect of art making that is thought to reduce stress. People cannot ruminate on their worries while focusing on the immediate challenges presented by their art making, although other potential factors include satisfaction in creating something new, and positive boosts to self-esteem and self-concept. Research has also investigated the role of physical manipulation of materials, especially in reaction to textiles activities such as knitting and crochet, suggesting

that activities that keep your hands occupied may reduce behavioural symptoms of stress such as restlessness.

#### Evaluation of creative/artistic activities

Sandra Walsh et al. (2004) provide supporting evidence for the use of Art Karts as a way of providing bedside creative activities for family members supporting a relative with cancer. In a repeated measure design study, they found that activities such as silk painting and printing activities significantly reduced self-reported stress and increased positive emotions measured using scales such as the Beck Anxiety Inventory (Walsh et al., 2004). Qualitative data suggested that the activities helped provide a new focus and distract caregivers from worry during times that their relative was asleep or too ill to participate. Caregivers made positive comments such as: 'I can't believe I created that', 'This is really something'. These results demonstrate that creative activities can significantly improve caregivers' experiences while supporting their relatives, thus improving the overall support that they are able to provide.

Research into other creative activities such as knitting has demonstrated that this pastime can be more helpful in targeting some symptoms of stress than others. For example, Heike Utsch (2007) studied 225 adult women and found that knitting reduced emotional and cognitive symptoms more than behavioural and physical symptoms. Like other physical activities, it is thought that the rhythmic and repetitive nature of knitting may help the individual to achieve a meditative-like state.

Similar to exercise, evidence suggests that art making as part of a group may present even greater benefits through increasing opportunities for social support. For example, Kathryn Duffy studied the effectiveness of therapeutic knitting groups for women recovering from disorders due to mental health issues. She describes how knitting was grounding for her clients and helped them to tolerate negative emotional arousal. Duffy explains that knitting is a transformative activity in which small challenges can be overcome, helping the individual to reduce learned helplessness and instil a sense of hope and agency.



Knitting can be a relaxing activity for many due to the regular clicking of the needles, and the rhythmic and repetitive movements ►

**LINKS**

Positive techniques for coping with stress also include seeking social support from friends, relatives and community groups such as religious organisations. See page 201 for more on social support, and the contemporary study by Nakonz and Shik (2009) page 234 for more on religious coping strategies, for example redefining hardships as opportunities for spiritual growth.

**EXAM TIP**

Exam questions often ask you to apply what you know to a short extract (scenario). Imagine you were asked to explain a positive technique that could be used to help someone suffering from stress. These are often two-mark questions. However, even for one mark you should offer a richly detailed and well-contextualised point. For example, you could say that the person could learn to knit using online videos or books from the library; this will reduce emotional symptoms of stress as it will give them a sense of accomplishment and increase positive emotions as they are happy with what they have created. Notice how the sentence has multiple parts. We learn what the person should do (and how), which symptoms will be addressed (and how), and the effect this will have on the person (and why).

**CHECKPOINT**

1. What is the difference between appraisal-focusing and problem-focusing?
2. How might a person who has lost their job use appraisal-focusing to help them to cope?
3. Why is problem-focusing considered to be more effective in reducing stress than emotion-focusing?
4. How might a person who is suffering from stress caused by noisy neighbours use problem-focused coping to reduce their negative emotions?
5. When might a person use avoidant-emotion focusing more than active emotion-focusing?
6. How does sugar intake affect cortisol?
7. How does compensatory control explain retail therapy as a way of reducing stress?
8. Which type of exercise (aerobic or anaerobic) is thought to be associated with the greatest stress reduction?
9. How might a person who is caring for a sick relative benefit from creative activities such as painting or making clay models?
10. What advice would you give someone who was thinking about using writing as a way of reducing stress?

**SKILLS**

ANALYSIS, PROBLEM SOLVING,  
EMPATHY/PERSPECTIVE TAKING

**EXAM PRACTICE**

1. Explain one or more reasons why emotion-focusing may or may not be an effective coping strategy for stress. (4 marks)
2. Compare appraisal-focusing and problem-focusing as ways of coping with stress. (4 marks)
3. Claudia is conducting semi-structured interviews with a group of refugees who have recently settled in a new country. The refugees are experiencing many physical and emotional symptoms of stress. Explain how Claudia might use content analysis to analyse the data from her interviews. (4 marks)
4. Evaluate research into positive and negative techniques for coping with stress. (8 marks)

# CHAPTER 17 TREATMENT AND THERAPY FOR ANXIETY

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe:

- selective serotonin reuptake inhibitors (SSRIs)
- serotonin and norepinephrine reuptake inhibitors (SNRIs)
- cognitive behavioural therapy (CBT) for anxiety disorders
- and evaluate the effectiveness of each treatment/therapy.

## GETTING STARTED

The last three chapters have all been about stress, a natural set of physical and psychological reactions to a stressor. In this chapter, you will learn about anxiety. A key feature of anxiety is **worry**. Most of us experience everyday worries. These are those 'what if?' moments – what if I'm late, miss the deadline, get sick, lose the race, miss the penalty?

- Are you bothered by 'what if?' worries? What do you worry about?
- As worrying is such a universal and widespread behaviour, it suggests that worry must have had survival value for our early ancestors. Can you think of any benefits of worrying? How might worriers be perceived by others?

## KEY TERMS

**generalised anxiety disorder (GAD):**

intense, persistent and unreasonable anxiety that is experienced almost every day, for several months; symptoms can be physical, such as aches and pains; behavioural, for instance fidgeting; emotional, for example nervousness and/or cognitive, for instance easily distracted

**worry:** uncomfortable emotions caused by concerns about future events and/or anticipated outcomes

The symptoms of anxiety are similar to stress symptoms but can be experienced in the absence of a specific stressor. They may also result from chronic (long-term) stress, even once that stressor is no longer part of our everyday experience.

When 'what if?' worries begin to interfere with our ability to function in everyday life, and are persistent and excessive, we refer to this as anxiety. Sometimes a person experiences anxiety but is unable to identify specific worries that are triggering these feelings. This is a symptom of **generalised anxiety disorder (GAD)**, a condition that affects approximately 1–7 per cent of the population, but is more common in women than men (NICE, 2023).



Anxiety disorders can be difficult to diagnose when working with people from different cultural groups. Can you think why this might be? ►

**KEY TERMS****acceptance and commitment therapy (ACT)**

a type of cognitive behavioural therapy that involves accepting negative emotions and thoughts rather than trying to eliminate them, and commitment to living a valued and worthy life

**efficacy:** the ability of a treatment to reduce the full range of symptoms of a certain disorder under ideal, controlled conditions

**selective serotonin reuptake inhibitors (SSRIs):** antidepressant medication that increases extracellular serotonin by binding to 5HT transporter molecules in the presynaptic cell membrane, so that serotonin cannot be pumped back into the presynaptic cell and is therefore still available to bind to receptors on the postsynaptic cell

**LINKS**

In Topic C, Biological Psychology, you learned about the function of neurotransmitters and synaptic transmission. You may find it helpful to refresh your knowledge of this information before reading about how SSRIs are used to treat anxiety.

► Figure 17.1 How SSRIs inhibit or block reuptake of serotonin

**THINKING LIKE A PSYCHOLOGIST**

Search online for more information about GAD. What other factors should a doctor consider before making this diagnosis? You could also research the GAD-7, a short, structured interview schedule that can be used to diagnose GAD. It can also determine whether a person's symptoms are mild, moderate or severe.

Please be advised that this chapter is about the treatment of anxiety disorders. If you have been affected by thoughts, feelings or behaviours relating to this, or you are concerned about someone you know, you are not alone. Talk to a teacher or someone that you trust.

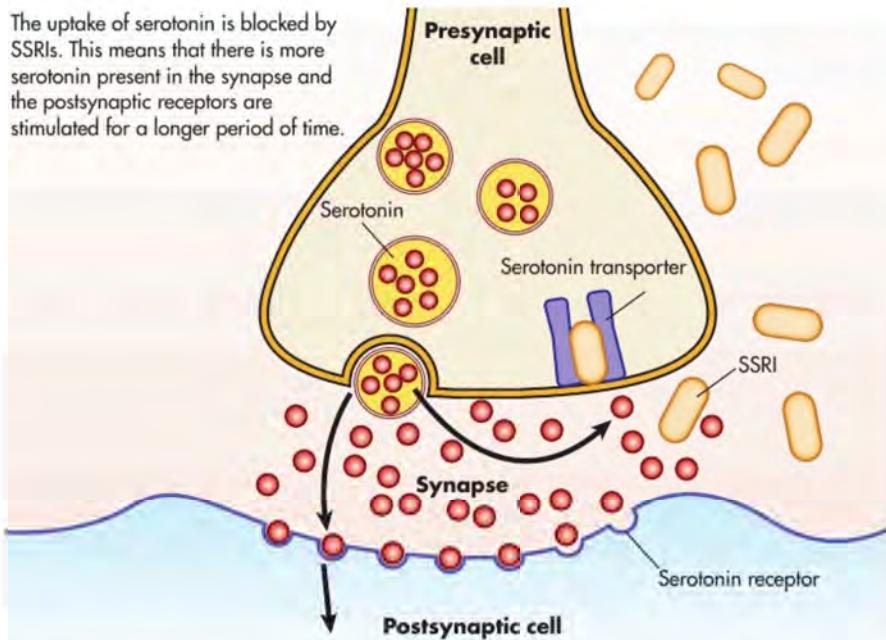
**LINKS**

In Chapter 18, you can choose to learn about a randomised control trial by Avdagic et al. (2014). This study investigated the **efficacy** of two treatments for GAD: cognitive behavioural therapy (which is also covered pages 137–142), and **acceptance and commitment therapy (ACT)**.

**SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRIs)**

One of the reasons that stress and anxiety are related is that long-term exposure to cortisol (see page 180) can interfere with neurotransmitters such as serotonin. This neurotransmitter is associated with emotion regulation, meaning that an imbalance of serotonin can lead to depression and anxiety. One way of treating anxiety is to try to increase serotonin levels through the use of drugs such as **selective serotonin reuptake inhibitors (SSRIs)**.

The uptake of serotonin is blocked by SSRIs. This means that there is more serotonin present in the synapse and the postsynaptic receptors are stimulated for a longer period of time.



Following synaptic transmission, serotonin molecules detach from the receptor sites and move back into the synapse. These molecules may then be pumped back into the presynaptic cell through transporter molecules in the membrane of the presynaptic cell. Therefore, one way to increase serotonin in the synapse is to block the transporter molecules. This is exactly what SSRI medications such as Prozac do; they inhibit or block reuptake (see Figure 17.1). They are referred to as SSRIs as there are some drugs which block reuptake of neurotransmitters other than serotonin, such as SNRIs.

**KEY TERMS**

**remission:** a period of time when a person who had previously been diagnosed with a disorder experiences a significant reduction or absence of symptoms

**side-effects:** unintended or undesirable effects of a medication or treatment that occur in addition to its intended therapeutic effects

Doctors typically begin treatment with the lowest possible daily dose (such as 5–25 mg). This is because these drugs often cause **side-effects** that mimic anxiety symptoms. This can be distressing for anxiety patients and cause them to stop taking their medication, and may put them off taking anti-anxiety medication permanently. Although SSRIs immediately increase serotonin in the synapse, symptom improvement may not be observed for two to four weeks. At this point, symptoms may decrease further over the following weeks and months. Doctors may increase the dosage up to around 60 mg, depending on the drug. However, if improvements are not observed after four weeks, doctors may try increasing the dosage or trying a different SSRI.

Patients should continue taking SSRIs for at least one year following **remission** to reduce the chance of relapse. When a patient stops taking their medication, they must be monitored regularly by their doctor for signs of withdrawal or relapse, at which point medication use may be restarted.

**LINKS**

In Topic H, Clinical Psychology, you will learn more about biological explanations for depression and/or anorexia nervosa. You will learn more about the role of serotonin and how imbalances can be managed using SSRIs (see pages XX–XX).

**EVALUATION OF SSRIS**

Evidence to support the role of SSRIs in the treatment of anxiety comes from a large meta-analysis conducted by Ting-Ren Chen et al. (2019). Ninety-one studies examining the efficacy of a wide range of pharmacological and psychological treatments for GAD were compared. Of all the treatments tested in this study, SSRIs were ranked as the third most effective and had the fourth largest effect size of  $-0.66$  of all the drugs. This figure indicates a moderate to strong reduction in symptoms in comparison to a placebo group (Chen et al., 2019). This suggests that the majority of anxiety patients should experience clinically significant relief when taking these medications.

However, there are drug treatments which have better outcomes than SSRIs. For example, bupropion, which blocks noradrenaline and dopamine reuptake, had an effect size that was nearly three times that of SSRIs ( $-1.87$ ). However, this was based on just one study with only 11 participants, and therefore the results may not be generalisable to all GAD patients.

An important side-effect of SSRIs is that they can be associated with gastrointestinal bleeding (Laporte et al., 2017). This means that patients who are already at risk of bleeding due to other medical conditions and medications should not be prescribed SSRIs. Also, nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, which are often used as painkillers, should be avoided in people taking SSRIs due to the increased risk of bleeding. These practical limitations of SSRIs mean they may not be suitable for all GAD patients, especially those who are elderly, for example, and all patients must be monitored carefully.

Evidence suggests that SSRIs including escitalopram, fluoxetine and paroxetine can lead to rapid symptom relief in people with anxiety disorders, but more important than this, Azra Dzevljan and colleagues in Bosnia have shown how these drugs are also associated with significant improvements in sleep quality and duration, and also in increased enjoyment and satisfaction with life (Dzevljan et al., 2019). These measures are important as they suggest that patients are more likely to continue taking their medication and avoid relapse. However, the researchers used a self-report called the quality of life and satisfaction questionnaire to gather their data, which was translated into the Bosnian language. This is a very lengthy questionnaire which may have resulted in a response set, which can reduce validity and weaken the findings regarding SSRI-use and quality of life.

## SKILLS

## CRITICAL THINKING

## ACTIVITY 1

Search online for quality of life and satisfaction questionnaires. Study the ways the questions are asked and the answer options carefully – what are the strengths and weaknesses of collecting data in this way? Think about the validity of using this type of questionnaire to study the efficacy of treatments such as drugs and cognitive behavioural therapy. Can you think of any alternative to questionnaires which might avoid subjectivity and bias? Does your suggestion have any limitations of its own? How could you overcome these problems?

Finally, a meta-analysis by Zhen Wang et al. (2017) suggests that compared with SSRIs, CBT may be the more favourable option for children with anxiety disorders. Although SSRIs were generally more effective than placebos for this age group (mean = 9.2 years, range 5–16), CBT was associated with greater improvement in primary anxiety symptoms than the SSRI fluoxetine. Furthermore, children assigned to CBT experienced fewer unpleasant side-effects (see Table 17.1) and had a lower attrition rate than placebo and medication groups (Zhang et al., 2017). This suggests that CBT may be more suitable for children with anxiety than SSRIs alone. However, these findings may not be generalisable to adults with anxiety disorders who face different types of stressor, and also use differing coping strategies including use of substances.

## KEY TERMS

**effectiveness:** the ability of a treatment to reduce the full range of symptoms of a certain disorder under everyday/real-world conditions, which may be affected by problems such as non-compliance (not taking medication properly or failing to turn up for sessions) and other individual differences

**hallucinations:** sensory experiences in the absence of any external stimuli

**hyponatraemia:** dangerously low sodium levels; symptoms include nausea, headache, confusion, seizures, and, in extreme cases, it can lead to a coma or death

**serotonin syndrome:** a potentially fatal condition resulting from an excess of serotonin; symptoms include agitation, confusion, rapid heart rate, dilated pupils, muscle rigidity, tremors, high body temperature, and, in severe cases, it can lead to seizures or loss of consciousness

TABLE 17.1: SIDE-EFFECTS OF SSRI MEDICATIONS

Frequency	Side-effect
Common	Agitation, feeling shaky or anxious, feeling or being sick, indigestion, diarrhoea or constipation, loss of appetite and weight loss, dizziness, blurred vision, dry mouth, excessive sweating, sleep problems including insomnia and/or day time drowsiness, headaches
Rare	Bleeding, bruising, confusion, stiffness or shaking, <b>hallucinations</b> , being unable to pass urine, <b>serotonin syndrome</b> , <b>hyponatraemia</b> (especially in elderly patients), severe mental health issues

## EXAM TIP

You may be asked whether a certain treatment or therapy is 'effective'. In clinical research, **effectiveness** refers to the extent to which the therapy/treatment is beneficial to people in the real world, being treated by everyday health care professionals in clinical practice who may be working under certain practical constraints relating to time and funding. This contrasts with efficacy, which is measured in randomised control trials (RCTs). Here, treatments are tested under ideal conditions (see page XX). When thinking about what you could include in your answer, you could refer to studies which show how much symptoms are reduced, but also evaluate these studies in terms of whether they test effectiveness (higher external validity) or efficacy (lower external validity).

## SEROTONIN AND NOREPINEPHRINE REUPTAKE INHIBITORS (SNRIS)

SNRIs are another class of drugs that are commonly used in the treatment of anxiety. Examples include venlafaxine, desvenlafaxine and duloxetine. Like SSRIs, these drugs block reuptake of serotonin but they also block noradrenaline transporter molecules. Noradrenaline is a hormone that can also act as a neurotransmitter, meaning it is found in the central nervous system as well as the autonomic nervous system. It plays an important role in the stress response as we have seen in Chapter 14.

## KEY TERMS

**down regulation:** a reduction in the number of receptor sites on the postsynaptic cell

**mode of action:** the way that a drug brings about its effect

**withdrawal syndrome:** physical and psychological symptoms which arise when a treatment is discontinued, particularly if this is done abruptly or without support from a health care professional

## LINKS

See page 4 for more on meta-analyses and effect size.

As with SSRIs, although transporter molecules for both serotonin and noradrenaline are blocked as soon as a person starts taking an SNRI, a reduction in anxiety may not be experienced for 7–10 days. This suggests that the **mode of action** for this drug may be linked to **down regulation**. For example, if the drugs temporarily increase the amount of noradrenaline and serotonin that is available for binding with postsynaptic receptors, the brain may compensate by reducing the number of available receptor sites. It is changes such as this that may eventually lead to increased feelings of calm, and reduction in tension and apprehensiveness.

## EVALUATION OF SNRIS

A strength of SNRIs in comparison with SSRIs is that research suggests that they have a higher effect size. This means that the reduction in anxiety symptoms is greater for people taking an SNRI compared with a placebo than it is for those taking an SSRI compared with a placebo. This is supported by the meta-analysis by Ting-Ren Chen et al. (2019); see page 221. SNRIs had an effect size of 0.91 compared with 0.66 for SSRIs. They were also the second most effective of all the treatments assessed in this study.

These findings are strengthened by another meta-analysis conducted by April Slee et al. (2019). The average mean difference between SNRIs (duloxetine and venlafaxine) versus a placebo was 2.91 points on the Hamilton Anxiety Scale (HAM-A). However, SNRIs can lead to **withdrawal syndrome**, making it difficult for people to stop taking the medication without ill effects. More positively, SNRIs are not addictive, meaning people do not develop tolerance and can continue benefiting from the drugs even on relatively low doses (Jakubovski et al., 2018). This contrasts with older anti-anxiety drugs, such as benzodiazepines, which were highly addictive.

Despite the beneficial results in clinical trials, SSRIs and SNRIs share some similar practical issues. Both drugs trigger anxiety symptoms as an early side-effect. This can lead to non-compliance, meaning patients stop taking their medication before it has had long enough to take effect. This can be particularly problematic for people with anxiety, as their disorder predisposes (makes them more likely) to worry, so they may be more likely than other people to become unnecessarily concerned about the meaning of these side-effects.

Unfortunately with SNRIs, as reuptake of neurotransmitters is blocked, people may experience more side-effects (see Table 17.1, page 222). Side-effects that are worsened by blocking reuptake of noradrenaline include dry mouth, increased sweating, blurred vision, difficulty in emptying the bladder, constipation and increased blood pressure. However, Slee et al. (2019) state that tolerance is better for these drugs than the most effective drug in their study, quetiapine, an atypical antipsychotic (see page 282).

## WIDER ISSUES AND DEBATES

### Reductionism versus holism

Biological treatments such as SSRIs and SNRIs take a reductionist approach to treating anxiety. People's concerns and worries are explained by chemical imbalances in need of correction. This is concerning in itself. Worry is a warning system that has evolved over thousands of years to signal to us that active changes may be required to enable us to live happier and more productive lives, where we can feel safe and secure. Over-reliance on medication may stop people worrying, but it also makes them more compliant and accepting of conditions which limit their ability to flourish. If doctors ignore the sociocultural context in which a person's worries have arisen, the individual and other members of their community may be at risk. For example, Jonas Nakonz and Angela Shik (2009) showed that anxiety in migrant workers (see contemporary study page 234) resulted from abuse and discrimination. Taking a more holistic view of the interactions between biological, cultural and socioeconomic factors may be critical in ensuring that people receive the support that they need.

**KEY TERMS****biological treatments:**

attempts to change the functioning of the brain or other bodily systems which affect behaviour to improve a person's mental health, for example the use of medication (drugs)

**psychological treatments:**

attempts to improve a person's mental health using techniques which alter a person's thinking and/or feelings, for example cognitive behavioural therapy

**SKILLS****CREATIVITY****KEY TERMS**

**catastrophising:** irrational exaggeration of potential negative outcomes; one negative thought often triggers a cascade of increasingly catastrophic outcomes

**mind reading:** believing that you know what others are thinking, often attributing negative thoughts or judgements to them with insufficient evidence

**thought traps:** distorted or faulty thinking that contributes to negative emotions and behaviours; includes 'all-or-nothing' ('black and white' thinking), overgeneralisation and personalisation

**EXAM TIP**

Drugs like SSRIs and SNRIs affect the reuptake of neurotransmitters such as serotonin and noradrenaline. This is a biological process; therefore together SSRIs and SNRIs are referred to as **biological treatments**. **Psychological treatments** include CBT and acceptance and commitment therapy.

You may be asked a question including the terms biological and/or psychological, so be sure to write about the correct treatment depending on the wording of the question.

**ACTIVITY 2**

To help you to consolidate your understanding of the mechanism of action of SSRIs and SNRIs, make a synapse from sweets, cake or any craft materials that you have available. Models you can eat afterwards are a lot more fun though! Ideally you will have a bag of multi-coloured sweets in different shapes and sizes.

- Draw an outline of the presynaptic axon terminal on a piece of paper, including vesicles.
- Fill the vesicles with coloured sweets (such as red jelly beans) to represent serotonin molecules.
- Draw the postsynaptic cell on another piece of paper.
- Use another coloured sweet for the receptor sites.
- You could also create sodium channels in the receptors and use another coloured sweet to represent the sodium rushing into the cell when it depolarises.
- You will need four more colours of sweet to represent the serotonin and noradrenaline transporter molecules in the presynaptic cell membrane, and the SSRI and SNRI medications that will block them.
- Now you are ready to act out synaptic transmission and show how this is affected by taking SSRIs and SNRIs.
- You could work with a partner to describe each stage of the process and explain why serotonin and noradrenaline cannot be pumped back into the presynaptic cells for recycling.
- Remember to make a link back to behaviour. How should these drugs affect anxiety symptoms and why?

**COGNITIVE BEHAVIOURAL THERAPY (CBT) FOR ANXIETY DISORDERS AND EFFECTIVENESS OF SUCH TREATMENT**

One issue with biological treatments for anxiety is that they treat the symptoms of the condition without addressing the ultimate cause. The definition of anxiety is worries that become difficult to manage, excessive and/or persistent. This suggests that a treatment which helps to ensure everyday worries do not develop into anxiety may be more effective over the longer term. Cognitive behavioural therapists believe that anxiety is caused by faulty and/or negative thinking patterns, sometimes called **thought traps**. Here are a couple of examples:

- **Mind reading:** People with anxiety sometimes imagine what other people are thinking of them (for instance, 'She doesn't know what she's talking about'), leading them to become nervous and avoid situations in which they think people might be judging them.
- **Catastrophising:** Anxiety may cause people to automatically imagine worst-case scenarios. For example, 'I can't find my mobile phone. What if someone has stolen it and they hack into my bank account and steal all my money?'

**KEY TERMS****maladaptive thoughts:**

unhelpful thinking patterns which trigger negative emotions and behaviours

**thought diary:** a tool

used in CBT to generate discussion and examples of thoughts which can be restructured; individuals record and analyse their thoughts, emotions and behaviours to identify and challenge negative or irrational thinking patterns

We all think like this occasionally, but people who over-use these thinking patterns are at greater risk of developing anxiety. This is why CBT aims to encourage more objective and less negative ways of thinking.

Firstly, therapists work collaboratively with their client to set measurable goals. This means there is a clear plan for what the person wants to achieve and by when. To achieve their goals, they help clients to identify **maladaptive thoughts**, meaning irrational thoughts that trigger negative emotions. They help them to understand how these thoughts are linked to feelings which can become overwhelming, and interfere with concentration and functioning in everyday life. Therapists help their clients to develop new ways of responding to these thoughts. For example, instead of believing that every thought deserves attention and further processing, they help people to understand that their thoughts are just passing through the mind and are not necessarily true. To help clients to distinguish between rational and irrational thinking, they ask them to provide evidence for their thoughts and encourage them to think critically about that evidence.



▲ Cognitive behavioural therapists sometimes use role play with their clients to work out different ways of responding in situations that typically trigger anxiety. How might this be helpful to people with anxiety?

Cognitive behavioural therapists have many techniques and strategies that they use with their clients. For example, they may ask them to complete a daily **thought diary** which they can discuss at their weekly sessions. This diary helps clients to record examples of events that trigger maladaptive thoughts and the person's typical responses. During the session, the therapist can then question the person about their negative thoughts and why they believe them to be true. Together, clients and therapists explore alternative, more realistic thoughts. This is referred to as cognitive restructuring. The aim is to break the cycle between negative thoughts, emotions and behaviours, and allow the individual to regain a sense of control over their inner mental world, so that they increase enjoyment and satisfaction in their interactions in the outside world. At the end of the agreed number of sessions, the client will be encouraged to reflect on the goals set at the beginning of the programme.

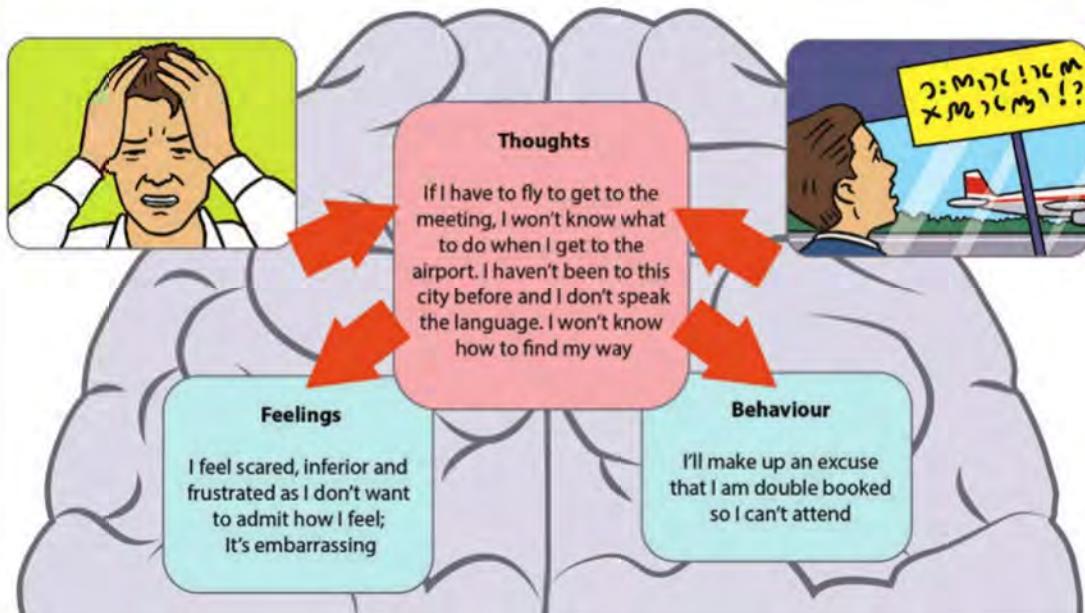
## SKILLS

EMPATHY/PERSPECTIVE TAKING

## ACTIVITY 3

Imagine that you are the person described in Figure 17.2. Every time you receive an email about 'the meeting', you break out into a sweat and your heart begins to race. Why? Because you are experiencing pessimistic 'what if?' beliefs. In this case, they are about the uncertainty of flying to a new city.

- Make a list of five 'what ifs' that you might be worrying about. For example: 'What if I lose my passport?'
- Swap your ideas with a classmate and take on the role of a CBT therapist. How would you help your client to be more optimistic/objective? How would you help them to restructure each thought?
- How could you help them to recognise that there is no evidence to support any of these thoughts?
- How would you encourage them to realise that these irrational thoughts will pass and that they are not necessarily true; they are just thoughts?



▲ Figure 17.2 Irrational 'what ifs?' can trigger negative emotions and avoidant behaviour; people never learn that they are capable of managing new situations

## KEY TERM

**intolerance of uncertainty:** individuals find it challenging to cope with ambiguous or uncertain situations, often leading to heightened anxiety or stress

CBT is used to treat many disorders including depression, schizophrenia and eating disorders. However, it can be adapted to suit the specific symptoms associated with each disorder. For instance, older forms of CBT for GAD targeted positive beliefs about worry, such as: 'Worrying motivates me to do things'; 'Worrying shows I care'. More modern forms of CBT for anxiety target **intolerance of uncertainty**. This is a risk factor for the development of GAD which makes 'what if' thinking and worrying more likely (Hebert and Dugas, 2019). The aim of CBT targeting intolerance of uncertainty (CBT-IU) is to help people to become less fearful of the unknown in order to reduce worrying.

**EXAM TIP**

When you are writing exam answers, ensure that your points are clear by always giving an example as part of your sentence. For example, when explaining how CBT works, instead of saying 'CBT identifies negative thinking patterns that make people anxious', you could give some examples of common negative thinking patterns, such as falling into thought traps like mind reading and catastrophising. For instance: 'CBT identifies negative thinking patterns that make people anxious, such as thinking they know what someone else thinks of them, which CBT therapists call "mind reading"'.

**EVALUATION OF CBT**

Numerous studies have shown that CBT can help to reduce anxiety. For example, Robert Ladouceur et al. (2000) found that 77 per cent of people receiving CBT for anxiety no longer met criteria for GAD when followed up six and twelve months after treatment. The wait-list control group in this study showed no significant improvement on any of the outcome measures. This is important as it suggests that changes in the CBT group's symptoms were not simply a product of the passing of time.

The findings of this study are strengthened by the fact that the researchers not only collected self-reported data, they also asked clinicians and significant others (friends and relatives) to judge the participant's symptoms. All measures showed that CBT helped improve symptoms of anxiety, including reducing positive beliefs about worrying and decreasing intolerance of uncertainty.

Despite these positive outcomes, there is a problem with the validity of RCTs which compare treatment to wait-list control groups. This is due to the placebo effect. Participants receiving CBT may expect that they will feel better after treatment, whereas people in the wait-list control group do not expect to feel better. This means it is unclear whether improvements in the CBT groups are genuine outcomes of CBT, or a reflection of more positive expectations about well-being. For this reason, some studies use a psychological placebo group as a comparison. These people also receive the same number of therapy sessions, sometimes with the same therapists, but with no CBT activities. Chen et al. (2019) (see page 221) found individual CBT to be more effective than a psychological placebo; however, group CBT was less effective than the placebo. Interestingly, Chen et al. also showed that being on a waiting list actually increased anxiety, suggesting that the findings of such studies may overestimate the merits of CBT.

Studies examining the efficacy of CBT-IU also demonstrate positive outcomes and help practitioners to determine which activities are most effective. Evidence from studies in Iran and China indicate that this form of therapy is effective in non-Western cultures and for people of differing age groups. For example, Chen Hui and Yang Zhihui found CBT-IU was effective in reducing anxiety symptoms on a wide variety of measures including the Penn State Worry Questionnaire and the Intolerance of Uncertainty Scale—Chinese Version in older Chinese adults in comparison with an untreated control group. Likewise, Mehdi Zemestani et al. (2021) found that CBT-IU was more effective than SSRIs in reducing GAD symptoms in 30 Iranian young adults.

Despite evidence for the benefits of CBT, many people with anxiety may prefer to take medication – a cheaper, low effort alternative. CBT requires people to be fully committed to the aims of the programme, talk openly about their worries and complete 'homework' activities between sessions. However, this investment may be beneficial as rather than masking the symptoms, CBT aims to produce long-term change in the way the person thinks and feels about themselves, and is not associated with unpleasant and potentially harmful side-effects. Neither treatment acknowledges the fact that worries are often rooted in reality, such as poverty or dangerous living conditions.

**LINKS**

See page 237 for a comparison between CBT and acceptance and commitment therapy as a treatment for GAD (Avdagic et al., 2014).

**CHECKPOINT**

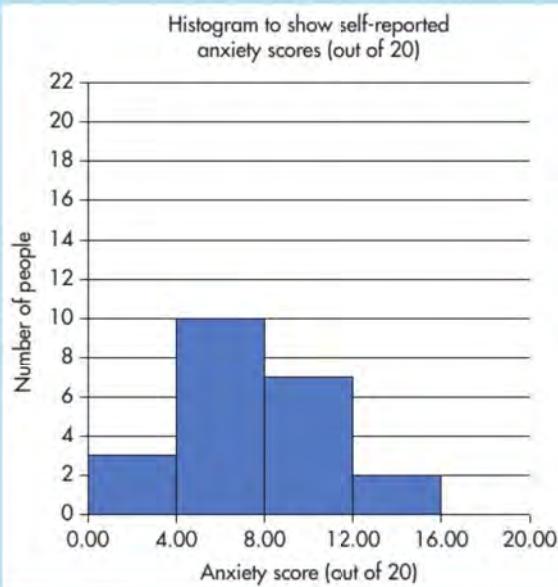
1. Which cell is affected by SSRIs – the presynaptic cell or the postsynaptic cell?
2. Which drug tends to improve anxiety symptoms faster – SSRIs or SNRIs?
3. Following remission, how long should patients continue to take SSRIs to decrease the chance of relapse?
4. What are three of the most serious side-effects of SSRIs?
5. Why might drug treatments for anxiety take several weeks to take effect?
6. Which drug had the higher effect size – SSRIs or SNRIs? What does this mean?
7. What is meant by cognitive restructuring?
8. Why might CBT practitioners encourage a client to complete a thought diary?
9. What is the difference between CBT and CBT-IU?
10. Why might one person prefer to receive CBT than take medication, and another person prefer medication to CBT?

**SKILLS**

ANALYSIS, CRITICAL THINKING

**EXAM PRACTICE**

1. Compare the use of selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) as treatments for anxiety. (4 marks)
2. Kylie is investigating the effectiveness of SSRIs as a treatment for anxiety. She asks a sample of 22 people to self-report their level of anxiety after eight weeks of taking the medication. She uses a questionnaire scored out of 20, where high scores indicate high anxiety and low scores indicate low anxiety. Figure 17.3 shows Kylie's findings. Explain whether her findings support the use of SSRIs for anxiety. You must refer to the graph in your answer. (2 marks)



▲ Figure 17.3 Histogram to show self-reported anxiety scores (out of 20)

3. Valentina is participating in a drug trial to test a new SNRI medication for anxiety. Doctors are monitoring her carefully for signs of any side-effects and to check whether the drug is helping to reduce her anxiety. Explain how and why the doctors might collect two types of data for Valentina to investigate the effects of the SNRI. (6 marks)
4. When Gobind's baby son, Amer, was born, there were some complications which meant Amer and his mother had to stay in hospital for a week following the birth. Ever since the birth three months ago, Gobind has been having headaches, feeling breathless and becoming panicky. He lays awake at night worrying that something terrible will happen to his family. This is now interfering with his job. Gobind's doctor suggests he starts taking SNRIs and refers him for CBT. Discuss Gobind's treatment plan and how it might help with his anxiety. (8 marks)

# CHAPTER 18 STUDIES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- one classic study:
  - Brady (1958) – Ulcers in executive monkeys
- one compulsory contemporary study:
  - Nakonz and Shik (2009) – And all your problems are gone: coping strategies among migrant workers
- two optional contemporary studies (you must study one of these for your Paper 3 exam):
  - Avdagic et al. (2014) – A randomised controlled trial of acceptance and commitment therapy (ACT) and cognitive behavioural therapy (CBT) for generalised anxiety disorder
  - Russell et al. (2015) – Adaptation of an adolescence coping assessment for therapeutic recreation and outdoor adventure settings.

## GETTING STARTED

This chapter contains four studies on stress, each of which uses a different method. The first two (Brady, 1958 and Nakonz and Shik, 2009) are perhaps as diverse as studies in psychology get. One studies animals in an attempt to draw conclusions that can be applied to humans. This is based on the belief that once you get beneath the outer layers of the brain, the physiology of human and animal brains are actually very similar. The other is a qualitative research study which takes an idiographic approach. Such studies acknowledge that each person's subjective interpretation of the world is unique. The objective is not to make any form of generalisation, merely to try to gain some insight into how a small group of people experience the world.

- When making decisions about ethics, we often ask whether the benefits to society outweigh the costs to the participants, but...
  - are there any potential costs to society of conducting research on animals?
  - are these costs outweighed by the potential benefits?
- Qualitative research such as focus groups and participant observations are often said to be highly credible sources of data because participants are encouraged to tell their story in their own words, but...
  - are there any reasons to believe that the data may lack credibility?
  - are there any ways that credibility can be improved in qualitative research studies?
- If you could investigate the same aims as Brady and Nakonz and Shik, but using a different methodology, how would you go about this?

## KEY TERM

**paradigm:** a widely accepted framework of theories and methods which guide research within a specific field



▲ Can studying animals really tell us anything useful about the study of humans, particularly in the context of studies of stress?

One of the interesting things about psychologists is how diverse they are in terms of their beliefs, values and attitudes regarding the causes of human behaviour. These differences mean that they also differ wildly in terms of their favoured research methodologies and techniques for data analysis. In fact, some people see these differences as a weakness. They claim that the lack of a unifying **paradigm** makes psychology unscientific (see pages 385–386). However, it could be argued that this is in fact one of psychology's greatest strengths. When research studies with differing methodologies support one another, the weaknesses of one study are countered by the strengths of another.

## CLASSIC STUDY: BRADY (1958)

### EXAM TIP

You need to be able to describe and evaluate this study in detail, as it is the named classic study from the specification. Specific questions could be asked about the aim, procedure and findings, so learn each area carefully. It may also be the focus on the 8-mark question. You may be asked to evaluate the study in terms of objectivity, validity, reliability, generalisability, ethics credibility and/or practical applications, so make sure you have points relating to each of these. You can also use this study to evaluate the GAS as it focuses on gastrointestinal ulcers, which Selye also noticed in his studies of rats.

### BACKGROUND

Previous research had shown that physical stress could induce ulcers, but there was no evidence to support the role of psychological stressors as a cause of ulcers. Brady and his team noticed that monkeys kept in restraining chairs (so they could only move their head and limbs) during conditioning studies had higher than average levels of hormones in their blood. The study was terminated as many of the monkeys died from ulcers and other gastrointestinal problems. Monkeys restrained in other studies had not died, so the researchers realised that the fatal stressor may have been the conditioning procedure.

### KEY TERMS

**dummy:** an object or device that mimics the external appearance of something real but does not perform the same function, in other words it does not work

**executive monkey:** in Brady's study, this was the monkey that was able to control the electric shocks given to both itself and the yoked non-executive monkey by pulling the lever

**fistula:** an artificial opening created in the abdominal and stomach walls through which the contents of the stomach can be sampled

**yoked:** animals are placed together in pairs and one of them has control over what happens to both of them; the other animal has no control over what happens to either of them

### AIM

To investigate the role of emotional disturbance as a cause of physical stress symptoms. Specifically, Brady aimed to explore whether stress caused by responsibility for harm to others could cause gastrointestinal ulcers in monkeys.

### METHOD/DESIGN

Laboratory experiment with independent measures. The independent variable was whether or not the monkey was able to control the shocks by pressing a lever. The dependent variable was whether or not the monkeys developed ulcers.

### SAMPLE

Eight rhesus monkeys.

### PROCEDURE

Pairs of monkeys were restrained in **yoked** chairs. This meant that the actions of the monkey on the left (the **executive monkey**) controlled outcomes for both of them. Both monkeys received shocks to the feet at exactly the same rate (once every 20 seconds), intensity (5 milliamperes) and duration (0.5 seconds), but only the executive monkey could prevent the shocks, by pressing the lever (a fixed interval negative reinforcement schedule). The control monkey also had a **dummy** lever within reach, but it did not do anything.

When a red light was on, this signalled an active trial which lasted for six hours. When the light went off, this signalled a six-hour rest break with no shocks. The procedure continued 24 hours a day for 6–7 weeks. Behaviour was recorded using automatic timers and counters. Twenty-four and forty-eight hour urine samples were collected and tested for corticosteroids. **Fistulas** were made in the stomach of the monkeys so that gastric secretion could be tested.

**SKILLS**

ANALYSIS, CREATIVITY

**ACTIVITY 1**

To help you to understand the procedure of the study, draw a diagram of the laboratory set-up. Read the procedure section again carefully and add each important detail to your diagram. Label each part to say what it is and why it is there. You could also include how it improved the study, for example the use of an automatic timer/counter (to show how many times the monkey pressed the lever) made the data collection more reliable. You should be able to find at least ten things to draw and label on your diagram. Keep reading the procedure until you have added as much detail as possible.

**RESULTS**

During the active trials, the executive monkeys pressed the lever at a rate of about 15 and 20 times a minute to avoid the shocks. This meant that there was typically only one shock per hour and never more than two. The monkeys also learned not to press the lever when the light was off. The control monkey occasionally pressed the dummy lever, but lost interest within days as there was no consequence.

The urine tests showed no significant differences in corticosteroid levels between the executive and control monkeys. However, during the rest sessions (between active trials), gastric secretions were more acidic in the executive monkeys than the control monkeys.

**KEY TERM**

**animal euthanasia:** intentionally ending a non-human animal's life for practical and/or ethical reasons; sometimes this is done so that an autopsy can be performed and/or to prevent suffering caused by long-term effects of the procedures of the study

There were wide individual differences in terms of how long the executive monkeys were able to withstand the procedure. One died after 23 days and another after 25 days. Another died after just nine days, and the longest surviving monkey died after 48 days. Autopsies showed inflammation, gastrointestinal lesions and ulceration of the small intestine in all four monkeys. None of the control monkeys died during the procedure. All experienced **animal euthanasia**, but autopsies revealed no abnormalities.

**CONCLUSION**

Brady concluded that the responsibility of controlling the shocks (psychological stressor) rather than the physical stress of the shocks themselves was the cause of the increased vulnerability to gastrointestinal ulcers. Ulcers may have resulted from increased stomach acid in the rest breaks.

**EVALUATION**

The yoking of the monkeys was a strength of the procedure. This allowed the researchers to control the physical stress of the shocks and ensure that both monkeys received identical treatment, other than the manipulation of the independent variables, that is the ability to prevent the shocks. This increases the internal validity of the study, meaning that a causal relationship can be established between the psychological stressor and the resulting ulcers, enhancing the overall scientific status of the findings.

However, the yoking is problematic because the monkeys were in close proximity to each other and were often observed to be chattering, apparently to each other. The proximity and communication between the monkeys is a confounding variable and it is unclear whether the executive monkey would still develop ulcers if the avoidance procedure was carried out in isolation. The executive monkeys' ulcers may have resulted from the stress of controlling the well-being of another monkey, as well as the shocks administered to themselves.

The use of automated equipment, such as the timers and counters used to measure the monkeys' behaviour, removed the need for human observers, limiting the effects of human error. This increases the reliability of the findings regarding the number of times each monkey pressed the lever. Likewise, the use of urine tests to measure corticosteroids is objective and does not require any interpretation, increasing reliability of the findings.

Monkeys were not randomly allocated to become the executive monkey. Both monkeys participated in learning trials, and whichever learned to consistently press the lever to avoid the shocks first became the executive monkey. The other monkey's lever was deactivated (it became a dummy lever). As the monkeys were not randomly allocated, this meant that the development of ulcers may have been caused by participant variables, such as intelligence, since the executive monkey was always the quickest learner. This lowers the internal validity of the study.

## LINKS

In Student Book 1 you will have studied the ethics of using animals in research (see pages 266–268). See also page 382 in Topic 1 for a discussion of speciesism.

A useful testing paradigm was developed which Brady and colleagues were able to adapt to investigate how changes in the reinforcement schedule affected stomach secretions. For example, they learned that ulcers only developed when monkeys were on a 6-hours on/6-hours off schedule and not on an 18-hours on/6-hours off, or 30-minutes on/30-minutes off schedule with shocks administered every 2 seconds. This knowledge is very beneficial with regard to understanding the possible effects of different work schedules on humans, as the results are in fact rather counterintuitive regarding the least damaging duration of work/rest periods.

## WIDER ISSUES AND DEBATES

### Practical issues in research

Animals are sometimes used in studies that would be unacceptable to conduct on humans for ethical reasons, but the extent to which results can be extrapolated is sometimes debatable. However, research suggests that psychological stressors are also related to gastrointestinal problems in humans. For example, a natural experiment conducted by Takeshi Kanno and colleagues in Japan followed a massive earthquake and tsunami in 2011. They compared the prevalence of stomach ulcers in seven hospitals for the same three months in 2011 and 2010 (see Figure 18.1). In the time following the initial quake there were many smaller aftershocks. The number of people diagnosed with **hemorrhagic ulcers** more than doubled and the overall rate was 50 per cent more than the previous year.

What similarities and differences are there between Kanno et al. and Brady? What practical issues are presented in each study? Why do you think some people develop ulcers but not others?

## KEY TERM

**hemorrhagic ulcers:**  
bleeding ulcers which can  
be life-threatening



► Figure 18.1 Japanese citizens mark the tenth anniversary of the 2011 earthquake and tsunami that killed 19,000 people and displaced 100,000

**KEY TERMS**

**charismatic:** in a religious context, this refers to spiritual gifts or charisma, including spiritual healing

**inductive:** theory emerges from the data

The study by Nakonz and Shik (2009) is a compulsory study - you need to be able to answer questions on it in your exam.

**LINKS**

You can read more about the inductive approach in Student Book 1, page 54.

You can read more about pilot studies in page 218.

**KEY TERM**

**pseudonym:** alternative or fictional names used to refer to specific research participants in published papers about a study; this is done to protect the participants' right to anonymity and thereby help to make the study more ethical

**LINKS**

You can read more about the use of pseudonyms page 357.

**CONTEMPORARY STUDY: NAKONZ AND SHIK (2009)****BACKGROUND**

Some countries have many migrant workers who often face challenging living and working conditions. Social networks such as religious groups therefore provide an important source of support.

**AIM**

To investigate hardships and religious coping strategies of migrant workers. Specifically, the study aimed to explore whether increased coping needs caused by the stress of the immigration process draws people towards **charismatic** religious groups, which promote coping strategies suited to the generally similar experiences of these migrants.

**METHOD/DESIGN**

The study used ethnographic field work, which included participant observation, semi-structured interviews and focus groups. Qualitative data was collected over three months. Data was analysed using an **inductive** approach.

**SAMPLE**

Following a pilot study with 20 female domestic workers (FDWs), religion was found to be a very important coping strategy, so the researchers purposefully recruited participants from particularly active religious groups.

Ten FDWs aged 20–40 were recruited from a range of religious groups. Participants included people who had lived and worked overseas for less than a year to over 20 years. All participated in religious gatherings, including religious services, prayer groups, charity activities and educational programmes, chats and meals. More than 20 per cent had converted to a faith different to the majority faith of their country of origin.

**PROCEDURE**

The researcher introduced themselves as a student carrying out a research project. They conducted participant observations of numerous religious services and activities. Contact with participants on any other weekday was impossible as they were always working. The researchers asked mostly open questions during the interviews, which were conducted in the first language of the participants or/and English. Where necessary, interview transcripts were translated into English. Examples of interview questions are shown below. Throughout the report, the researchers used **pseudonyms** to protect the FDWs' anonymity, for instance Jennifer and MayRose.

Here are some sample questions from the interview schedule (as the interviews were semi-structured, other questions were asked based on the participants' responses):

- How do you cope with problems/worries/loneliness?
- What can/will you do to address the problems you face?
- What is the role of prayer in your life?
- How do your religious beliefs affect the way you cope with your problems?
- With whom do you share your problems?
- What advice do they give you?
- What do you advise to others when they are burdened?

## RESULTS

### Hardships

Many participants were unhappy with their working conditions; some were more positive. Some cried, describing the 'mental torture' of working long hours (such as 6 am until 1 am) six days a week and not being allowed to leave their employer's house. Many felt lonely and homesick. Other burdens included difficult relationships with the employer/family, verbal abuse and lack of financial security. They also worried about their relatives overseas and discrimination.

### Religious coping strategies

The researcher describes attending a place of worship with one of the FDWs. A lot of FDWs chatted with excitement as they waited for the service. The highly emotional two-hour service included music and traditional dancing.

A charismatic woman led the service and a priest asked 'Are you happy to be here together... after one week of struggle, hardships and loneliness?' The workers' situation was acknowledged and the women were encouraged to gain 'power over (their) loneliness, power over (their) employment situations, even without money'. The participant says 'If we have faith, we can survive'.

Three coping strategies were identified regarding religion and survival (see Table 18.1).

TABLE 18.1: THREE COPING STRATEGIES RELATING TO RELIGION AND SURVIVAL

Coping strategy	Description
Hardships are redefined as opportunities for spiritual growth	<p>When a participant unexpectedly had her contract terminated, she said it was... 'not the end of the world... [there is] a plan for me'</p> <p>Attributing spiritual significance to negative life events helped the FDWs to accept their problems and made them more bearable; it provided them with dignity, comfort and motivation.</p>
Seeking divine intervention	<p>FDWs all stated that prayer helped them to resolve problems and influence situations beyond their personal control. In 'answered prayer sharing' sessions, FDWs told stories to one another about divine intervention and/or miracles that occurred in answer to their prayers.</p> <p>They stated that prayers are only answered for people who uphold the principles of their religion; this explains why many FDWs gave up their only day off work to attend religious services and then to volunteer in prisons, hospitals and with the elderly.</p>
Place of worship as social locus	<p>Places of worship and religious group activities provided social as well as spiritual support. One FDW said: 'Instead of thinking of our loneliness and our family we are busy here.'</p> <p>Singing together also helped to reduce problems. One woman said: 'If you sing a song... it's like all your problems get lost. If I have a problem with my family or with my employer, I just sing a song of praise... Your intention is to get rid of the problem in your mind.'</p> <p>Small groups often prayed together to ask for assistance with a group member's problem. They said group prayer was more effective than individual prayer.</p> <p>Group leaders often shared emotion-focused advice with FDWs; problem-focused was less common, but material support such as accommodation for FDWs with nowhere to stay was also offered by some groups.</p>

## CONCLUSION

Religious resources provide a wide range of coping strategies for FDWs, from spiritual, to social to material support in times of crisis. This was achieved through patience, gratitude, sharing and forgetting. Places of worship also provided support and encouraged workers to develop a sense of dignity and self-esteem. This allowed them to confront challenging situations. Migration appeared to increase the likelihood of workers changing their religious affiliation to more charismatic groups that sometimes sought to serve the needs of the FDW population.

## EVALUATION

One strength was the researcher's cultural knowledge and experience, including his ability to speak the participants' first language. This would have helped him to establish a strong rapport and gain their trust and acceptance. The women were, therefore, more likely to be truthful when sharing their thoughts, feelings and beliefs. This means the data is more credible than it might have been if the researcher had used a translator, or if he did not have the same degree of sensitivity to the issues faced by the workers. However, his pre-existing knowledge may have made his interpretations of the women's responses more subjective, and prompted follow-on questions which encouraged them to talk more about the experiences that he expected to hear from them.

The use of semi-structured interviews is however a strength, as it gives the interviewer the opportunity to ask for more information about issues such as how the workers cope with their problems and loneliness. If he was unsure about an answer that an interviewee gave, he could ask for clarity. For example, when a worker said 'They lower you down, because you're only a maid', he might have asked what they meant by 'lower you down', prompting them to explain that they meant that the employers sometimes humiliate them.

Although semi-structured interviews have their strengths, they can also be problematic. The ability to ask additional questions means that the interviews are not replicable, so other researchers would not be able to check the reliability of findings, such as the more passive nature of the religious coping strategies employed by the FDWs.

## LINKS

In Paper 3, you could be asked explicitly about the use of focus groups in health psychology. This research method is discussed on page 234, using examples from Nakonz and Shik (2009). You may wish to read this section now, as some of the evaluation points could also be used to evaluate this study.

The sample size was only ten for the interview part of the study, and the researcher comments that the five religious groups attended by these participants were chosen because they presented rather 'intense' examples of religiously active groups. This means that the data collected may not be representative of all FDWs, as people who choose to attend these more charismatic groups may differ in their choice of religious coping styles from people who choose more mainstream groups. However, the researcher did attempt to include women of different ages and who had lived in the country for differing amounts of time. This should mean that the data collected reflects a wider range of experiences. As this is qualitative research, there is no explicit attempt to generalise to other types of migrant worker. However, it may have been better to increase the sample size by including a wider range of religious groups.

A final weakness is that qualitative data analysis can be vulnerable to researcher bias, meaning that findings may be subjective, for example the focus on disempowerment and passive coping styles. As this study investigates a group in society who lack social status, the researcher may select examples which support an interpretation of the FDWs as victims, rather than focusing on examples of empowerment and autonomy. However, the researchers in this paper are aware

of these issues and balance their interpretation of the FDWs' passive coping styles (such as a belief in divine intervention and the importance of being patient) with an acknowledgement of their awareness of their active interest in societal matters.

### PRACTICAL APPLICATIONS

This study highlights the role of emotion-focused religious coping strategies in reducing distress experienced by migrant workers. Groups that provide support such as non-governmental organizations (NGOs) may be able to use this knowledge to provide services that are tailored to this population's needs, that is providing social and emotional as well as practical support. Also, NGOs may find it helpful to work collaboratively with religious organisations since they have been shown to be such an important source of support to the FDWs.

#### EXAM TIP

If you are asked a question about how a study has 'furthered our understanding' of a specific area of psychology, you need to think about the methodology of the study. Unless the study is an experiment in which potential confounding variables were tightly controlled, cause and effect cannot be inferred. This limits the extent to which we can say that understanding has been furthered. Likewise, if a study only uses quantitative data, it may be difficult to infer how or why behaviour, thinking or feelings change. Again, this could be said to limit our understanding.

As your understanding of research methods develops, you will find this style of question easier. If you think about it, really this is just another way of asking about the extent to which findings are scientific. However, you should also consider the limitations of taking a purely scientific approach when it comes to increasing our understanding of human behaviour, especially when exploring religious faith.

### CONTEMPORARY STUDY, OPTION 1: AVDAGIC ET AL. (2014)

#### BACKGROUND

The studies by Avdagic et al. (2014) and Russell et al. (2015) are optional. You must be able to answer questions on one of them in the exam.

Unlike other anxiety disorders, people with generalised anxiety disorder (GAD) sometimes do not respond to cognitive behavioural therapy (CBT) (see page 227). For this reason, researchers have begun to examine acceptance and commitment therapy (ACT) (see page 220) as a possible alternative. A similarity between the two therapies is their ability to help people to understand that their thoughts should not be seen as absolute truths and therefore less significance should be attached to them. The main difference is that ACT practitioners believe GAD symptoms are caused by psychological inflexibility and a tendency for experiential avoidance. Present moment awareness, acceptance of unpleasant internal experiences and participation in activities that are important to the individual are encouraged.

This was the first randomised control trial (RCT) comparing CBT and ACT specifically for GAD. The researchers were optimistic based on findings relating to other acceptance-based therapies.

#### AIM

To compare two group-based treatments for GAD: ACT and CBT.

#### METHOD/DESIGN

The research method was an RCT with an independent measures design. Participants were randomly allocated to either the ACT group ( $n = 25$ ) or the CBT group ( $n = 26$ ). Data was gathered to measure the dependent variables using seven self-report questionnaires – see Table 18.2.

TABLE 18.2: THE RANGE OF SELF-REPORT QUESTIONNAIRES COMPLETED BEFORE AND AFTER TREATMENT, AND THE THREE-MONTH FOLLOW-UP

	Questionnaire	Number of items	Variables being measured
<b>Outcome measures</b> (pre- and post-treatment and at three-month follow-up)	The Penn State Worry Questionnaire (PSWQ) (Meyer et al., 1990)	16 × 5 point Likert scales 1 = not at all typical of me to 5 = very typical of me	The extent to which worries are excessive, uncontrollable and pervasive
	The Depression, Anxiety and Stress Scale 21 (DASS-21) (Lovibond and Lovibond, 1995)	21 × 4 point Likert scales 0 = did not apply to me at all to 3 = applied to me very much or most of the time	Depression, stress and anxiety
	The Quality of Life Inventory (QOLI) (Frish et al., 1992)	16 × 4 point Likert scales 0 = not important, 3 = extremely important and 16 × 7 point Likert scales -3 = very dissatisfied to +3 very satisfied	16 areas of life including health, work, relationships, goals and values, romantic relationships and recreation – measured importance of each and level of satisfaction
<b>Measures taken during treatment</b> (Session 1, 3 and 6)	Self-reported distress and interference	9-point Likert scale 0 = none to 8 = extreme interference/distress 4+ indicates significant difficulties	Experiences of distress and/or interference of worrying with everyday functioning
<b>Process measures</b>	The Acceptance and Action Questionnaire (AAQ) (Hayes et al., 2004)	19 Likert scales 7-point Likert scale ranging from 1 = never true, to 7 = always true	The extent of participants' accepting attitude towards negative feelings and experiences, and their ability to take action even when feeling uncertain
	The Intolerance of Uncertainty (IUS) (Buhr and Dugas, 2002)	27	Intolerance of uncertainty, such as ideas that uncertainty is not acceptable and leads to frustration, stress and inability to act
	Cognitive Avoidance Questionnaires (CAQ) (Sexton and Dugas, 2008)	25	Cognitive avoidance, such as suppressing worrisome thoughts, substituting neutral and positive thoughts for worry, avoidance of threatening stimuli, distraction and transformation of images into thoughts
	The Why Worry-II (WW-II) (Holowka et al., 2000)	25	Positive beliefs about worry (Gosselin et al., 2003), for example: 'If I did not worry, I would be careless and irresponsible.'

## SAMPLE

A volunteer sample of 34 women and 17 men from Queensland, Australia were recruited using newspaper adverts, flyers and emails. Ages ranged from 19 to 69 (mean 36, standard deviation 13 years). Participants were screened using a semi-structured clinical telephone interview. This was to check that they met the DSM-IV criteria for GAD (APA, 1994). The interviewer used the Anxiety Disorders Interview Schedule (ADIS-IV) (Di Nardo et al., 1994). Anyone with psychotic symptoms, severe cognitive impairment, substance misuse or suicidal intent was deselected. Thirty-eight participants remained in the study until the final data collection; nineteen in each group. The majority of participants had received treatment before and 49 per cent were taking medication for their disorder (of this group, 60 per cent were taking SSRIs and 8 per cent SNRIs).

## LINKS

See page 266 for more about the DSM-IV and DSM5.

## KEY TERM

**cognitive defusion:** an ACT technique which involves shifting attention away from the content of negative thoughts and onto the process of thinking.

This change of focus is designed to reduce distress and overthinking

## PROCEDURE

Participants received six weeks of weekly CBT or ACT delivered in group sessions. Groups included four to six participants and sessions lasted two hours. Participants who missed a group were provided with an individual meeting to catch up on missed exercises.

The same practitioners ran both the ACT and CBT groups. They followed instruction manuals for the CBT and ACT group sessions (Zinbarg et al., 1993; Forsyth and Eifert, 2007; Glaser et al., 2009). CBT targeted cognitive biases, physiological arousal and avoidance behaviour. ACT emphasised 'accepting thoughts and feelings and living a life consistent with one's values' (Avdagic et al., 2014, pages 117–118). All participants were asked to practise newly learned skills at home, for example muscle relaxation techniques, mindfulness (see page 51), challenging unhelpful thinking (CBT group) and **cognitive defusion** (ACT group).

Before treatment started, they completed seven questionnaires (see Table 18.2; Outcome and Process measures columns). Further self-reports were completed in treatment sessions 1, 3 and 6 to monitor changes in distress and worry. Three months after treatment, participants were mailed booklets containing the outcomes and process questionnaires, which they were asked to complete and return.

## SKILLS

CREATIVITY, COMMUNICATION

## ACTIVITY 2

Imagine you work for a television news channel. You have been asked to create a short film about Avdagic's research as the producer believes that viewers could all benefit from understanding more about techniques like mindfulness and thought defusion. She also thinks that raising awareness of GAD will help to reduce stigma around talking about mental health.

Write a script for your film and create a storyboard/cartoon strip to show the director and camera operator what you want to include. The producer has asked you to include a brief interview with Avdagic and some of the participants.

## RESULTS

### Changes in pre- to post-treatment measures

In both the ACT and the CBT groups, worry, depression, anxiety, stress and use of cognitive avoidance strategies were significantly lower after treatment than before, and quality of life was significantly higher. Symptoms interfered less with daily functioning for both groups during the course of the treatment programme.

Participants also showed fewer positive beliefs about worry and greater tolerance of uncertainty, with the ACT group showing slightly greater decreases in these measures than the CBT group. However, these differences had disappeared by the follow-up assessment. Interference and distress were also significantly lower for the ACT group than the CBT group following the final treatment session.

**KEY TERMS**

**clinical significance:** a reduction in symptoms that reaches the threshold for reliable change and is likely to transfer to measurable improvement in everyday life

**comorbid:** experiencing symptoms of two or more disorders at the same

**reliable change (RC):** a level of improvement on a psychometric test that suggests that the change is not simply due to random variation but is a real outcome of the treatment/intervention

**Changes in post-treatment to three-month follow-up measures**

Improvements in worrying and quality of life were maintained at the three-month follow-up. Symptoms of depression, anxiety and stress decreased significantly further for both groups.

**Clinical significance**

Seventy-nine per cent of the ACT group had achieved **reliable change (RC)** compared with only 47.4 per cent of the CBT group, and 74 per cent of the ACT group had achieved both RC and **clinical significance** compared with only 42 per cent of the CBT group. RC was 60 per cent for both groups by the follow-up assessment.

**CONCLUSION**

ACT can provide clinically significant rapid relief from GAD symptoms in as few as six group-based sessions, therefore providing a beneficial and cost-effective treatment option. Improvements may be sustained for at least three months. However, ACT does not appear to be any more effective than CBT. The rate of initial improvement may be faster, but over the longer term, CBT appears to be equally effective.

**EVALUATION**

A weakness of the study is that the sample size was relatively small, with just 38 participants completing all self-report questionnaires at the three-month follow-up. They were also a volunteer sample, so may have been more motivated and willing to complete the exercises and activities between sessions than the general population of people with GAD. Likewise, the sample were all relatively well-educated, meaning that they might have found the sessions more accessible than people with lower levels of education. Overall, this suggests that not everyone may benefit to the same extent from ACT, and until further replications have been conducted, caution should be exercised when claiming that ACT is not more effective than CBT when delivered in small groups over the short term.

The findings have good internal validity, as detailed statistical analysis was conducted to ensure that the participants assigned to the ACT and CBT groups were similar on key aspects which could have affected their symptoms, including age, gender, education, employment, marital status, **comorbid** diagnoses, previous treatment or medications. This meant that differences in outcome and process measures can be attributed to the difference in the therapy rather than participant variables.

Both treatments were delivered by the same therapists, one of whom had 25 years of clinical experience. This increased the validity of the findings, as any difference in the two treatments could not be attributed to differences in the therapists in terms of their ability to deliver the programmes and relate to the clients. This increases the overall validity of findings regarding the efficacy of group treatments for GAD.

A strength was that independent clinical psychologists who were experts in CBT and ACT rated the quality of a randomly selected sample of 20 per cent of the digitally recorded treatment sessions. They concluded that there was 100 per cent adherence to the instructions in the treatment manuals and competence was assessed as 4.4/5 for ACT and 5/5 for CBT. This suggests the efficacy of the two therapies should be similar if carried out by similarly qualified therapists who follow the manuals with care.

A weakness is that the study did not include a control group who were not receiving either ACT or CBT. This means it is not possible to determine whether improvements sustained by the ACT and CBT groups may have resulted from natural variation in symptoms over the passage of time. However, the researchers used reliable change and clinical significance ratings which suggest that this should not have been the case.

A further weakness is that the reliability of the GAD diagnosis could not be checked as the diagnostic interviews were conducted by telephone and the calls were not recorded. As GAD has a relatively low rate of inter-rater reliability (+0.67; Brown et al., 2001), it is possible that some of the 51 people in the initial sample did not have GAD, thus reducing the overall validity of the findings. However, the interviews were conducted by an independent clinical psychologist who was uninvolved in the study and this should increase the validity of the diagnosis.

### PRACTICAL APPLICATIONS

The findings showed improvements in all areas after just 12 hours of ACT. As the therapy was also delivered in groups of 4–6, this suggests that group ACT may be a cost-effective alternative to individual treatment. Also, the fact that it decreased worry significantly more than CBT during and after treatment suggests people may feel more satisfied with the results and therefore be less likely to drop out, meaning that they receive the full benefit of the programme. This will mean they are less likely to relapse, ultimately saving more time and money on future treatments.

### LINKS

See page 253 for a discussion of internal consistency in self-report questionnaires. Examples are provided from the classic and contemporary studies which could also be used to evaluate Avdagic et al. (2014).

### EXAM TIP

By the time you get to the end of your course, you shouldn't need to remember evaluation points word for word – you should be able to create your own using basic knowledge of the procedures. For example, this study used semi-structured interviews to diagnose GAD, multiple self-report questionnaires were used to collect outcome data and the study had a longitudinal design. If you can evaluate these methodological concepts, you can make creditworthy evaluation points about Avdagic et al. (2014). Just remember to include specific details relating to this study. For example, the interview schedule was called the ADIS-IV, data was collected three months after treatment ended, and depression, anxiety and stress were measured using the DASS-21.

## CONTEMPORARY STUDY, OPTION 2: RUSSELL ET AL. (2015)

### BACKGROUND

Adolescence presents many major and minor sources of stress, including problems with other family members, schoolwork and bullying. Weak coping skills can mean these stressors trigger poor health and well-being, including depression, anxiety, eating disorders and anti-social behaviour. Research has demonstrated that activities such as rock climbing, abseiling (rappelling), backpacking, mountain biking and white-water rafting can create the perception of high risk and challenge for the individual but in a relatively safe environment. Under these conditions, adolescents can develop critical self-efficacy and coping skills that will continue to benefit them throughout their lives.

Lack of standardised assessments to measure stress and coping in adventure therapy settings means research in this area is limited. This prompted the authors to adapt the Response to Stress Questionnaire (RSQ) (Connor-Smith et al., 2000) which they had identified as an excellent measure of adolescent coping in other situations. They were hopeful that this would encourage further understanding of the effectiveness of adventure therapy programmes.

### AIM

To develop a new assessment tool that could be used to measure adolescent reaction to stress and coping in therapeutic recreation, wilderness and adventure therapy settings. With the permission of the original authors, Russell et al. aimed to create a new version of the Response to Stress Questionnaire (RSQ), specifically targeting stress and coping in outdoor adventures.

**METHOD**

The method is a questionnaire with self-reported data.

**SAMPLE****Initial questionnaire design**

Thirty-five young people in an adventure therapy programme.

**Testing the Response to Stress Questionnaire Outdoor Adventure Version (RSQ-OAV)**

A purposive sample of 144 high school students aged 13–17 (mean age 15.5, 54 per cent male) were recruited from a public high school (49 per cent), a private therapeutic high school (42 per cent) and an adventure therapy programme (9 per cent). Forty-nine per cent were white and 36 per cent were Asian/Pacific Islanders.

**PROCEDURE****Designing the questionnaire****KEY TERM**

**content validity:** the extent to which a measure (such as a psychometric test) used in a psychological study covers all aspects of whatever it is supposed to be measuring

Initially, 35 participants were asked to identify and rate key stressors in outdoor adventure experiences. Fifty-six stressors were identified and the top ten were added to the RSQ (see below). Items were worded to encourage respondents to think about their own experiences and sometimes included examples of more than one stressor (see Table 18.3). A panel of expert judges reviewed the items to check for **content validity**.

Here are the top ten stressors identified during questionnaire construction:

1. frustration with other group members
2. being out of their comfort zone
3. peers refusing to complete activities
4. preparing and cooking food
5. thinking about reuniting with parents
6. fear of injury
7. equipment failure
8. physical challenge
9. outdoor activities
10. weather

TABLE 18.3: EXAMPLES OF MODIFICATIONS TO ORIGINAL RSQ ITEMS USING EXAMPLES OF STRESSORS RELATING TO OUTDOOR ADVENTURES

Item number	RSQ item	Corresponding RSQ-OAV item (highlight shows insertion of outdoor adventure stressor)
30	I think about happy things to take my mind off the problem or how I'm feeling.	I think about happy things to take my mind off the bad weather, scary activities or problems with group members.
55	When a rough situation with other kids happens, I can get so upset that I can't remember what happened or what I did.	When a kid in my program refuses to complete an activity and holds back the group, I can get so upset that I can't remember what happened or what I did.

The newly adapted RSQ-OAV comprises 59 items. Firstly, respondents tick the stressors that apply to them. The following questions prompt them to reflect on their reaction and coping skills in response to these stressors.

Question styles include:

- four-point Likert scales, for example rating the amount of stress for different outdoor situations: 1 = no stress, 4 = a lot of stress
- checklists, for example 'Which of the following emotional regulation strategies do you use?', such as writing in a journal, complaining, talking to staff, etc.
- open questions, for instance 'How could you manage when you are not getting along with another group member?'

Teenagers were asked about their involuntary stress responses, for example heart races, breathing increases, 'butterflies in stomach', and voluntary reactions such as doing dangerous things, rebelling and/or experiencing inward emotions such as anger, sadness and anxiety ►



### Testing the questionnaire

The questionnaire was completed by 144 teenagers. It took approximately 20–30 minutes to complete.

### RESULTS

The internal consistency of the RSQ-OAV was estimated to be +0.91; strong evidence that the questionnaire is internally reliable despite the adaptations.

Using a statistical technique called **confirmatory factor analysis**, the researchers confirmed that responses to stress fall into two main categories:

- voluntary responses
- involuntary responses.

Each of these groups has:

- engagement: active ways of tackling the stressor/problem – these reactions are not always positive, such as rebelling or being impulsive
- disengagement: disengagement is more passive (see Table 18.4).

### KEY TERM

**confirmatory factor analysis:** a statistical technique that helps to establish the convergent and discriminant validity of a questionnaire

TABLE 18.4: THE FIVE STRESS REACTIONS/COPING STRATEGIES IDENTIFIED IN RUSSELL ET AL. (2015) AND TESTED IN THE RSQ-OAV

Coping responses	Engagement/disengagement	Examples
Voluntary	Engagement	Primary control: direct action including problem solving and/or expressing emotions
		Secondary control: indirect actions such as changing the way you think, accepting the situation or distracting yourself
Involuntary	Engagement	Denial, avoidance, wishful thinking, distancing oneself from the problem
	Disengagement	Rumination, intrusive thoughts, emotional and physiological arousal and impulsive behaviour

## LINKS

See page 205 for more on coping strategies, including appraisal-focused, problem-focused, emotion-focused, and positive and negative techniques. You could use this study as evidence for individual differences in the coping strategies.

## CONCLUSION

The RSQ-OAV is a valid and reliable measure of adolescent voluntary and involuntary stress and coping responses associated with outdoor adventures in therapeutic wilderness settings.

## EVALUATION

A strength of the study is that the researchers asked a panel of wilderness and outdoor adventure experts to examine the items to ensure that they represented primary voluntary engagement, secondary voluntary engagement, voluntary disengagement, involuntary engagement and involuntary disengagement. They also checked the relevance, wording, readability and clarity of the items, including avoiding double-barrelled items which asked about two different things in one question. This helped to improve the validity of the items by ensuring that the teenage respondents would understand the questions and be able to respond in ways which matched their experiences.

The RSQ-OAV includes a range of open and closed questions that means that qualitative and quantitative data are collected regarding adolescent stress and coping responses. This is a strength because it means the questionnaire could be used to assess the efficacy of therapeutic wilderness programmes using inferential statistical tests, since the Likert scales provide quantitative data. Furthermore, the open questions allow the teenagers to explain their experiences about coping strategies in their own words, and this could help adventure leaders to provide more individualised support for teenagers attending wilderness camps.

A weakness is that the study was conducted in the USA, meaning that the items that were modified to reflect stressors specific to outdoor adventures were selected by adolescents from an individualist culture, who may find certain situations more stressful than others. This is a weakness as it means that the RSQ-OAV may be ethnocentric and therefore lack population validity for adolescents from other collectivist cultures, such as the People's Republic of China where different coping strategies may also be favoured.

## PRACTICAL APPLICATIONS

This study provided evidence to support the validity and reliability of the RSQ-OAV. This means that this questionnaire can now be used to evaluate the efficacy of therapeutic outdoor adventure and wilderness programmes for teenagers struggling with anxiety. This should help programme leaders to adapt their courses to make them more beneficial to participants.

For example, if the participants were developing skills in voluntary engagement but still demonstrating signs of involuntary disengagement, they could try to develop activities that would further target these areas.

### THINKING LIKE A PSYCHOLOGIST

To find out more about how outdoor activities have been used to promote positive mental health in teenagers, search for information about Daniel Bowen and Wilderness Adventure Therapy (WAT).

### CHECKPOINT

1. Which of the four reinforcement schedules was used by Brady (1958)?
2. What difference did the autopsy show between the control and executive monkeys?
3. How would you describe the participants in the Nakonz and Shik (2009) study?
4. Why do you think the researchers used focus groups and semi-structured interviews?
5. How did religious coping strategies help the participants in the study by Nakonz and Shik (2009)?
6. With reference to Avdagic et al. (2014), what do you know about the sampling technique and participant characteristics?
7. How many sessions of CBT or ACT were the participants offered, and how many people were allocated to each group?
8. From the results of this study, what evidence is there that ACT might be more beneficial for people with GAD than CBT?
9. What did the 31 participants in the Russell et al. (2015) pilot study have to do?
10. Give an example of voluntary disengagement versus involuntary disengagement, two of the stress reactions and coping strategies identified in Russell et al. (2015).

### SKILLS

ANALYSIS, CRITICAL THINKING

### EXAM PRACTICE

1. Describe the findings of Brady (1958). (4 marks)
2. Explain one improvement that could be made to the study by Brady (1958). (2 marks)
3. Explain two practical applications of the findings from Nakonz and Shik (2009). (4 marks)
4. Assess your chosen contemporary study (Avdagic et al. 2014, or Russell et al. 2015) in terms of generalisability and objectivity. (8 marks)

# CHAPTER 19 METHODS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- the use of methods in psychology when carrying out research in health psychology:
  - methods studied in Units 1 and 2
- the use of standardised questionnaires, including the Adolescent Lifestyle Questionnaire (ALQ)
- the use of focus groups;
- the use of non-human animals in experiments in psychology, including practical and ethical issues and the Animals (Scientific Procedures) Act (1986)
- decision-making and interpretation of data
  - including List A from Topic A as appropriate
  - and List B from Topic B as appropriate.
- research in health psychology, including issues of:
  - reliability, validity, generalisability, credibility, objectivity, subjectivity, ethics and practical application of findings as appropriate.

## GETTING STARTED

In the first chapter of this topic, we discussed practical problems with accurately measuring cortisol. Advances in the field of biomedical engineering mean that research teams around the world are working on novel ways of measuring real-time fluctuations in cortisol levels throughout the day.

A wide range of wearable devices have been trialled, including contact lenses which detect cortisol in tears. A team led by Minjae Ku (2020) working in Seoul in Korea have developed a 'smart lens' which contains antibodies which bind with cortisol and cause a change in the electrical resistance of the lens. This change can be detected by a magnetic field created by the user's mobile phone. Data is then received and processed by the phone, which calculates the concentration of cortisol. The team tested their extraordinary cutting-edge technique on rabbits and one human, and found that the device was extremely sensitive to microscopic changes in cortisol. There may be multiple applications for these devices and other researchers have even suggested that our mobile phones could provide voice feedback to let us know when cortisol levels are elevated.

- What do you make of this extraordinary technology and the way that it has been tested?
- Should such devices be trialled on animals?
- Why do you think rabbits were chosen rather than humans?
- Is it acceptable to only trial the product on a single human?
- What practical and ethical considerations are there with regard to the use of such devices?
- Imagine you were able to obtain 20 sets of these 'smart lenses'; how would you use them in an experiment to measure stress? Think about all the studies you have learned about in this topic for inspiration and let your imagination go!



▲ Cutting-edge technology may mean that it will soon be possible to measure cortisol in tears using smart contact lenses

## METHODS FROM UNITS 1 AND 2 AS APPROPRIATE, RELATED TO HEALTH PSYCHOLOGY

### LINKS

On page 365 of this book you will find a table listing all the methods for the whole course and the topics in which you studied them.

For paper 3 you will need to revise all of the research methods that you learned last year plus those that you learned about in Topic E (Developmental Psychology) and in your option topic, e.g. Topic F (Criminological psychology) or this Topic i.e. Topic G (Health psychology).

## THE USE OF STANDARDISED QUESTIONNAIRES RELATED TO HEALTH PSYCHOLOGY

Throughout this topic we have discussed how health psychologists use questionnaires to collect quantitative data, and also how new questionnaires (instruments) are designed and tested (see pages 241–245). A wide variety of instruments have been described, the majority of which collect data using ranked scale questions which prompt the respondent to indicate the extent to which they agree with statements about their lifestyle and symptoms of stress, depression and anxiety. These are closed questions, meaning they cannot be answered in the respondent's own words. The use of the term 'standardised' here refers to the idea that all respondents answer the same questions in the same order and there is a standardised response format that is the same for every item in the questionnaire. For example, all questions are answered using a seven-point Likert scale. This sort of questionnaire is sometimes referred to as a psychometric test, as it measures some aspect of the mind. Non-standardised questionnaires may have a range of question formats and include both open and closed questions.

### LINKS

For more on standardised questionnaires, page 78.

### SKILLS

EMPATHY/PERSPECTIVE TAKING,  
CRITICAL THINKING

## ACTIVITY 1

Create a table listing all the questionnaires that have been mentioned in this topic. You should be able to find at least ten. See if you can find full copies of any of these. Write down some of the items and how they are scored so that you have a few examples that you can use to improve your exam answers. Now think: Why might participants find it difficult to answer some of the questions? Can you think of any ways that the questionnaire could be improved to increase the validity of the participants' responses?

### EXAM TIP

Throughout this topic, examples have been given of the complex process of creating new standardised questionnaires. Even if you do not intend to study the optional contemporary study by Russell et al., (2015) it is well worth reading through this study now as it will help you to understand a lot of important ideas about the use of standardised questionnaires in health psychology.

## THE ADOLESCENT LIFESTYLE QUESTIONNAIRE (ALQ)

The ALQ is a 43-item (questions) standardised questionnaire designed by Angela Gillis et al. (1997). It was designed to measure healthy lifestyle in adolescents and was the first instrument directly designed for this age group. The researchers comment that the existing measures for adults are typically too long and lack reliability and validity. They also focus more on risks and hazards, whereas Gillis and colleagues wished to focus more on positive lifestyle choices that promote health and well-being.

**KEY TERMS**

**factor analysis:** a statistical technique used to make sense of the relationships between many interconnected variables; it identifies underlying factors (not directly measured) which explain the greatest amount of variance within the data

**internal reliability:** the extent to which items in a standardised questionnaire or psychometric test correlate with each other, indicating they are measuring different aspects of the same underlying factor

**SKILLS**

ETHICS, CREATIVITY, CRITICAL THINKING

**KEY TERM**

**external reliability:** the extent to which a person's score on a standardised questionnaire or psychometric test at one point in time correlates with the score they obtain when they take the test again in the future

The questionnaire was tested on 292 Canadian teenagers. **Factor analysis** of the data revealed seven key dimensions which explained 56 per cent of the variance in the scores for each item: identity awareness, nutrition, physical participation, safety, health awareness, social support and stress management.

**Internal reliability/consistency**

The ALQ has an alpha reliability score of 0.91. This means that the items in the questionnaire have **internal reliability** (consistency). This can be calculated using a technique called split halves in which the scores for even-numbered items are correlated with odd-numbered items. A high score such as this (0.91) indicated a very strong positive correlation, suggesting all items are measuring a construct relating to healthy lifestyle choices.

Questionnaires such as the ALQ are an excellent tool for health psychologists, as they can be used as part of an experiment to assess the effectiveness of interventions to improve health and well-being.

**ACTIVITY 2**

If you were constructing a questionnaire to measure healthy lifestyles in young people aged 13–18, what closed questions would you include? Challenge yourself to create a ten-item questionnaire. Think carefully about how participants will respond, for example forced choice questions with a limited range of options to tick, ranked scale questions where they show their agreement with statements. Write a brief set of standardised instructions for participants, including ethical considerations. Remember you cannot trial your questionnaire in this age group without parental consent and you should be mindful of local cultural sensitivities and laws around health-related behaviours when designing questionnaire items. Now think about how this questionnaire could be used in an experiment to measure the effectiveness of a health promotion campaign. What descriptive and inferential statistics would be appropriate when analysing the data? Tip: think about your choice of experimental design and level of measurement of the data.

**External reliability/consistency**

Another way of testing reliability of data from standardised questionnaires or psychometric tests is to ask a sample of participants to complete the questions twice at two different points in time, usually only one or two weeks in between. If the test has **external reliability**, you would expect a significant positive correlation between the scores obtained at time point 1 and time point 2. Bruce Dohrenwend comments on the difficulties with external reliability of measures such as the Holmes and Rahe stress scale. Even when longitudinal studies are designed so that participants are reporting on the same period of time, test-retest reliability is often relatively low. When the gap between the two sittings is only 7–14 days, the reliability may be as much as 0.94, but anything more than two weeks reduces reliability to between 0.30 and 0.60. This suggests that data from the Social Readjustment Rating Scale (SRRS) may not be reliable.

**FOCUS GROUPS**

Focus groups are a type of group interview commonly used in health psychology. Qualitative data is collected from a small number of people who discuss a specific issue in a group. Group sizes vary but are typically between four and eight participants. A researcher acts as a group moderator. Although they may ask the group a series of predetermined questions about the topic, their role is not to ask group members direct questions but to facilitate interaction and ensure that all members feel included and are allowed the opportunity to participate. Sometimes groups will be given physical materials such as a video clip to watch, or a sorting task where they are asked to put things in order of importance, for example. Carefully designed materials can stimulate debate, trigger memories, and encourage elaboration and self-disclosure.

Do you think people would share more or less information in a focus group than in an interview? What factors might affect this?



Researchers who use this technique value the potential for participants to explore ideas and experiences with others. Observing participants interacting can provide deep insights into the ways in which people make sense of their lives as they express, construct, defend and modify their views throughout the discussion. Conversations are typically audio or video recorded and digitally transcribed, so that the transcript can be analysed using a technique such as content analysis or thematic analysis. Many digital applications are available to assist in the process of transcribing and analysing qualitative data.

#### LINKS

For more on content analysis, see Student Book 1, page 261, and page 355 of this book. For more on thematic analysis, see Student Book 1, page 54, and page 257 of this book.

Focus groups require careful planning so that they are a rewarding experience for both the researcher and the group members. Researchers must think carefully about the purpose of the group before making decisions about which participants to group together, when the groups should be held and where. Data may be collected in a single session, or groups may meet several times, either with the same or different group members.

An example of this method is provided in the mandatory contemporary study by Nakonz and Shik (2009). Four focus groups were conducted and the researchers state that they were used as a way of checking the validity of the data collected in the individual interviews.

#### EVALUATION

The strength of this method includes the rich, insightful and contextual information that can be provided. In health psychology, the topic discussed can be deeply personal, and participants may not be comfortable talking one-to-one with a researcher who they perceive does not face the same challenges as them. In a group setting, however, the participants may develop a sense of group identity due to shared experiences, and the exchange of views may be freer and more authentic. This may certainly have been the case with the Filipino women in the study by Nakonz and Shik, who may have found it easier to explain how their religion helped them to cope with their problems and loneliness. Focus groups also provide a more cost-effective way

of gathering qualitative data than individual interviews which can be time-consuming to deliver and therefore expensive.

A weakness with the use of focus groups is that people with more sociable and talkative personalities may dominate the discussion. Certain attitudes and experiences may therefore be discussed in greater depth than others, and the views of other people may conform to the views of this one dominant individual. This is a weakness as it means certain themes may take on greater importance in the analysis than is appropriate. This is why techniques such as member checking are so important as a way of ensuring the credibility of focus group findings.

Further weaknesses of the focus group method are the reliance on qualitative data, which mean that it is not possible to use statistics to analyse the data. This means that it is not possible to make credible generalisations to the wider population. However, this is not the goal of qualitative research, which is conducted to explore the views of small unrepresentative samples. This emphasises the importance of choosing research methods which are best suited to the overall purpose of the study. Often a combination of qualitative and quantitative methods is used so that the conclusions benefit from the strengths and weaknesses of the various methodologies.

#### LINKS

Member checking and credibility are discussed further page 82 of this chapter.

## THE USE OF NON-HUMAN ANIMALS IN EXPERIMENTS IN PSYCHOLOGY

Early research in health psychology used animal experiments to investigate bodily responses to stress. For example, Selye's experiments on rats inspired the development of the General Adaptation Syndrome (GAS) and the classic study by Brady (1958) explored the development of ulcers as a consequence of prolonged exposure to cortisol. These studies were conducted a long time ago, nearly 90 years in the case of Selye! Today, the vast majority of scientific research with animals is strictly regulated. Rigorous systems ensure that all researchers abide by the highest standards for animal care and well-being, most importantly minimising pain and suffering.

#### LINKS

See Student Book 1, pages 266–268, for more on animal research and ethics, including the Animals (Scientific Procedures) Act (1986).

To recap the work of Selye and Brady, see page 185 and page 231.

## ETHICAL ISSUES AND THE ANIMALS (SCIENTIFIC PROCEDURES) ACT 1986

In the United Kingdom, researchers who wish to work with animals must comply with the Animals (Scientific Procedures) Act (1986). They must obtain a personal licence from the Home Office (a government department) and each project must be individually licensed. The Act covers work with a wide range of species, from mice, rats and other rodents, cats, dogs, horses and non-human primates, to fish, amphibians, reptiles, birds and octopus and squid.

Today, replications of the experiments conducted by Selye and Brady are unlikely to be allowed because of the high levels of pain and suffering. Selye inflicted stress in numerous ways, including painful injections, food deprivation, exposure to extreme temperatures and using treadmills in which the animals had to run constantly to stay the right way up. He then euthanised the animals to examine their internal organs. Clearly, these studies were not minimising harm. However, it could be argued that the studies are ethical as there were clear benefits to society in terms of understanding the impact of stress in the body.

Likewise, Brady's monkey experiments exposed these creatures to electric shocks, which were controlled by the executive monkey pressing a lever/button. In these studies, the monkeys died from stomach ulcers, yet Brady continued to replicate the studies with other monkeys to

investigate the exact circumstances that led to the development of ulcers. The use of primates in this study makes it even more controversial due to their degree of similarity to humans. Although this makes the data more valid in terms of its extrapolation to humans, the level of similarity also raises the question: If you would not do this study on humans for ethical reasons, why would you do it on a monkey?

Despite the ethical issues regarding harm in these studies, both researchers minimised the number of animals used. For example, Brady only used eight monkeys and this limits the overall amount of suffering in the study.

#### LINKS

See page 383, for a discussion of Bateson's cube (1986) as a way of supporting ethical decision-making when using non-human animals in research.

### PRACTICAL ISSUES

The reason certain species are used in health psychology is the degree of evolutionary continuity, meaning the level of similarity between the non-human animals being used and humans. For example, rodents and primates tend to have similar brain structures to humans. Although their brains may be less complex, including significant reduction of the frontal lobes, they share many of the same brain structures, including the amygdala and hippocampus.

In terms of researching the effects of stress on the prefrontal cortex, rats are not the best choice as the dorsolateral prefrontal cortex is underdeveloped compared with primates. This brain region is associated with executive functioning, including working memory and switching attention. This means rats may not provide valid data regarding the full range of effects of stress on cognition in humans. This is why some researchers prefer to use primates for this type of research.

Another practical issue relating to the use of non-human animals in stress research is that being confined to a laboratory can be stressful in itself. This can mean their cortisol levels are affected not only by any stressors that the researchers subject them to, but also from aspects of the way they are housed. For example, rhesus monkeys are social animals that live in large troops in the wild. However, laboratory monkeys are often housed individually or in much smaller groups. Also, handling the animals – moving them from the usual enclosure to a testing area – could mean that these control groups experience more stress than control groups who may not be moved.

#### THINKING LIKE A PSYCHOLOGIST

Mahatma Gandhi famously stated: 'The greatness of a nation and its moral progress can be judged by the way its animals are treated.' To what extent do you agree with this statement? As the Animals (Scientific Procedures) Act 1986 only applies to research in the United Kingdom, why not carry out some research into local laws regulating psychological research with non-human animals?

### DECISION-MAKING AND INTERPRETATION OF DATA

For paper 3 you will need to revise everything that you learned in the first year of your course regarding quantitative data analysis. This includes descriptive statistics from List A: calculating measures of central tendency (mean, median, mode), data tables (frequency tables and summary tables), graphical presentation (bar chart, histogram), measures of dispersion (range and standard deviation), percentages, ratios, fractions and inferential statistics. From List B this includes: decision-making and interpretation of inferential statistics: levels of measurement,

**LINKS**

On pages 265–268 of this book you will find a table listing all the method requirements for the whole course and the topics in which you studied them. This includes everything you need to know for quantitative data analysis.

Wilcoxon signed ranks test of difference, Spearman's rank and Chi-squared distribution, probability and levels of significance ( $p \leq .10$   $p \leq .05$   $p \leq .01$ ), observed and critical values, sense checking of data, one- or two-tailed regarding inferential testing and Type I and Type II errors.

## EVALUATION OF RESEARCH IN HEALTH PSYCHOLOGY

### RELIABILITY

Reliability refers to the consistency of measurements taken in health psychology studies. If the measuring device is reliable, it should record the same outcome each time it is used, so long as the situation is exactly the same each time. Much of the research on the physiology of stress is based on samples of blood, urine and, more recently, the use of hair samples. Such measures are usually seen as reliable, as if two tests are completed at the same time, the results will generally be the same, assuming there has been no contamination and the test has been conducted accurately. However, release of hormones such as cortisol follow a circadian rhythm. This means levels will be higher at some points during the day/night than others. It is therefore crucial that time of day and consumption of food and/or other substances are monitored to ensure reliability of measurements.

The reliability of the measures used in stress research is more questionable. For example, much of the data is self-reported using questionnaires and/or interviews. These rely on the individual's perception of their own situation, which may change depending on a wide variety of factors, both physical and psychological. For example, recall of stressful life events may vary over time, meaning that a person may have a different SRRS score if tested twice, even though no further events have occurred between testing sessions. Likewise, tests used to assess traits such as Type A personality may vary depending on situational factors, which may affect a person's self-perception.

Semi-structured interview data is even less reliable, as questions asked will vary depending on the responses given. However, the qualitative analysis of the data can be tested for reliability. For example, a researcher might ask another independent person to also conduct a thematic analysis on some of the interview transcripts and see whether the same themes emerge in both analyses.

With regard to standardised questionnaires or psychometric tests in health psychology, researchers must establish the internal reliability of these measures when deciding which measures to use in their research. This refers to the extent to which test items measuring the same underlying concept are correlated with each other (see above).

### VALIDITY

Internal validity in an experiment refers to the extent to which changes in the dependent variable (DV) are caused by the manipulation of the independent variable. Causality can only be established if anything else which could influence the DV remains constant (controlled). For example, in Brady (1958) he wanted to determine whether stomach ulcers were caused by having responsibility for the welfare of another monkey. This meant that anything which could have affected the monkeys' stress levels, other than whether or not the lever controlled the shocks, had to remain constant. Otherwise, the findings would lack internal validity.

There are many issues with regard to the validity of animal models as a way of understanding human behaviour, which are discussed below. For now, it is worth considering whether pressing a lever to control electric shocks is a meaningful example of stressors in the real world. Many people have responsibility for others, but are more likely to develop physical illnesses such as ulcers than people without responsibility for others. How would you test this in a real-world situation? It is also worth recognising that Brady did find something very interesting, which is that the acidity of the stomach was worse during the rest breaks between exposure to the stressor. Can you think of any professions in which there are periodic breaks in which individuals could suffer more from stress-related symptoms? If so, then it may be possible to test the ecological validity of Brady's findings.

**EXAM TIP**

Imagine you have been asked to explain a weakness relating to validity. These questions usually have a short extract about a study to read and a maximum mark of two. To gain both marks, first make a point about anything from the extract that suggests that the data supplied might not really reflect the participants' typical thoughts, feelings and/or behaviour. Your second sentence should explain why the participants' responses might not match with reality, and how this could affect the findings of the study overall. As you finish your answer, think about the aim of the study and how this might not be achieved due to the problem that you have identified.

The predictive validity of a measurement refers to the extent to which it is possible to use it to accurately predict future outcomes. For example, the Response to Stress Questionnaire Outdoor Adventure Version (RSQ-OAV) (Russell et al., 2015) could be said to have strong predictive validity if it was possible to use the scores to predict which participants would be more or less likely to develop stress-related illnesses in the future. However, the validity of many self-report questionnaires such as this is hampered by the fact that participants often do not have good self-awareness. Lack of insight into how situations are affecting them, or the inability to reflect on their thoughts and feelings, mean that the data may lack validity.

Researchers have attempted to overcome this problem by sometimes incorporating clinician ratings into their research. For example, the Clinical Global Impressions-Severity of Illness (CGI-S) measures illness by asking practitioners the following question: 'Considering your total clinical experience with this particular population, how ill is the patient at this time?' Answers are given as ratings on a seven-point scale at the time of assessment, where 1 is 'not ill at all' and 7 is 'among the most extremely ill patients'. This helps to remove subjectivity in terms of participants feeling unable to judge their own conditions; however, clinicians' ratings could also be seen as subjective and thus lack validity.

**SKILLS**

COMMUNICATION, CRITICAL THINKING

**ACTIVITY 3**

Think about your studies in detail for this unit (Brady 1958; Nakonz and Shik, 2009) and one of your choices from Avdagic et al. (2014) and Russell et al. (2015). Put them in rank order from the least to the most reliable. Now team up with a partner and compare the order you both chose. Do you have good inter-rater reliability – was the order you put them in consistent (the same) for each of you? If not, discuss it until you reach an agreement.

Now think about the studies again and rank them for validity – remember, this could be internal, external or predictive validity. How do these terms apply to each study? Can you think of any way that the types of validity could be improved or assessed?

**GENERALISABILITY**

When assessing generalisability, you need to consider the sampling techniques used in each of the key pieces of research in this topic. Samples need to be representative of the target population to whom the findings are to be generalised. Random and stratified sampling are likely to produce the most representative sample and therefore the most generalisable findings. However, these are rarely used due to practical issues. Remember, when discussing animal experiments, it does not usually make sense to talk about sampling techniques, as results are being extrapolated to humans rather than generalised to members of the same species.

In studies of health psychology, it is important to be careful about making generalisations to populations who may face different stressors to each other, such as discrimination, poor access to health care, pollution, low income, and so on.

### CREDIBILITY

Credibility is typically a term used by qualitative researchers to refer to the extent to which their findings are trustworthy and meaningful. It has similarities therefore to validity, but qualitative researchers have different goals to quantitative researchers and tend to use different vocabulary to evaluate their research. One way that credibility can be improved is to use multiple ways of collecting data; this is called method triangulation. Qualitative researchers also use the term researcher triangulation rather than inter-rater reliability, and this adds credibility as it ensures that their analysis of the data is less subjective and therefore more credible, as it is not just based on opinions of one researcher. Data triangulation means that once a researcher has drawn conclusions based on their qualitative data, they may go out and collect more data to check that the themes that have emerged still apply. Revisit the study by Nakonz and Shik (2009) and see which types of triangulation (if any) were used to support the credibility of the findings.

Credibility of qualitative research can also be improved through a process called member checking. This means that researchers take the findings of their analysis back to the original participants from the study and ask them whether they feel that the themes that have been identified are a good 'fit' for their experiences, or whether anything has been missed. This process may be part of data triangulation, in which further data is gathered and incorporated into the analysis.

### OBJECTIVITY

#### KEY TERM

**cholesterol:** a fatty substance created in the liver but also present in foods made from animals (e.g. meat, eggs)

Data is objective if it is free from bias and personal judgement. In health psychology, biological tests such as brain imaging techniques and blood tests to measure cortisol or **cholesterol** levels would be considered objective. It may be possible to assess aspects of behaviour in ways that are objective; for example, the extent to which a person takes part in activities, such as the number of days that a person has participated in exercise, mindfulness, therapy sessions or religious meetings.

### SUBJECTIVITY

Self-reported data regarding how a person thinks or feels about aspects of their life, such as completing ratings scales about worrying or depression, may be considered more subjective. This is because they require the judgement to be exercised on the part of the respondent. They must reflect on their experiences and use them to decide how to respond. The person may be selective in the evidence they consider when making their judgement; the way that they perceive/remember events may differ in comparison with other people. Sometimes this type of data is important in psychology though, as it is the individual's personal opinion that is important. For example, research that aims to see how a person's thoughts and feelings have changed over time (for example, before and after therapy) requires subjective measures to be used to collect the data. Sometimes, a clinician, spouse, parents or friend may be asked to rate an individual/participant to improve objectivity of the data; however, these measures are also subjective as individual/personal judgements are still being made.

When making decisions about the objectivity or subjectivity of data from health studies, think about all the people involved in the research process, including the participant, the researcher who collected the data and the researcher who analysed the data. To what extent did each of these people have control over the data that they shared, recorded or processed?

### ETHICS

Research in health psychology presents a variety of ethical issues, not least the confidentiality of personal and highly sensitive information regarding people's health status. This information must be stored with the utmost care in locked/password protected files and must be destroyed

once the research has been finalised. It should not be used in other research studies unless this was part of the original informed consent provided.

Each of the studies in this topic present a range of additional ethical issues and you must take care to apply the correct set of ethical guidelines. When evaluating ethical issues in Brady (1958), you should refer to the Animal (Scientific Procedures) Act (1986). The study by Nakonz and Shik (2009) presents a range of interesting ethical considerations given the vulnerability of the participants and the sensitive nature of the topic area. Protection from harm was therefore critical. It would have been important for the researchers to make it very clear to the women that despite providing their informed consent, they had the right to withdraw at any point throughout the study. These women were deeply concerned about their immigration/visa status. They were also used to following orders from their employers and, therefore, may not have fully understood that they had the right to terminate their participation. The study also raises important ethical issues in the reporting of the data. It was important that the report gave an objective insight into the workers' lives without reinforcing stereotypes which could have unintentionally led to further marginalisation.

### PRACTICAL APPLICATIONS

The applications of health psychology research are many and varied. Stress management programmes can be used to support those who have already developed stress-related symptoms and illnesses, and may include techniques such as relaxation training and mindfulness, as well as support groups where people can learn new skills such as knitting (see page 216), cooking and painting. Research into the efficacy of exercise as a way of combating anxiety means family doctors in the United Kingdom are now prescribing exercise, including free gym membership for people who are at risk of developing more serious stress-related conditions. Further applications of research include workplace interventions to reduce stress in employees through policy changes and practices. Many patients with physical conditions including cancer are also offered treatment plans, including stress management and coping strategies. As you revise each of the key studies in this topic, think carefully about specific ways in which they can contribute to improving quality of life for specific groups of people in society.

#### CHECKPOINT

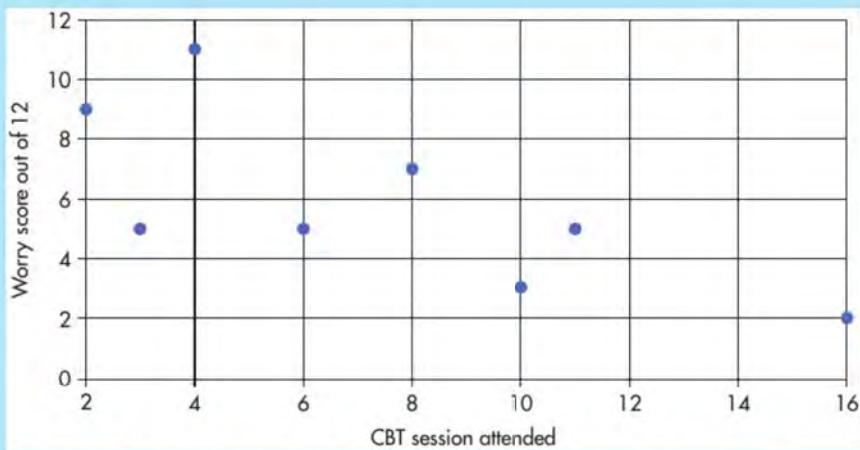
1. What is the difference between a standardised questionnaire and other types of questionnaire?
2. What is the split halves technique used for?
3. How would you assess the external reliability of a standardised questionnaire?
4. With reference to focus groups, what is the role of a facilitator/group leader?
5. Can you think of ten ethical issues relating to the study by Brady (1958)?
6. Name the brain region that is underdeveloped in rodents which limits the extent to which findings can be extrapolated to humans.
7. Why might animals that are housed in laboratories have higher than average stress levels which might confound study findings?
8. Why might a researcher carry out member checking?
9. Identify one objective and one subjective way to study stress in humans.
10. How could a researcher protect participants from harm in a research study on coping strategies in cancer patients?

## SKILLS

ANALYSIS, CRITICAL THINKING,  
ETHICS

## EXAM PRACTICE

1. A researcher is using a standardised questionnaire to measure coping strategies. Suggest one way that they could improve the reliability of their study. (2 marks)
2. A researcher is studying the effects of stress on the hippocampus in rats. Explain one practical and one ethical issue of using non-human animals in this study. (4 marks)
3. Brody is investigating the correlation between the number of CBT sessions participants attend and their score on a worry scale eight weeks after their final session. His results are shown in Figure 19.1.
  - a) State a suitable directional hypothesis for Brody's study. (2 marks)
  - b) Explain one conclusion that Brody could draw from his results. (2 marks)
  - c) Explain how Brody could determine the statistical significance of his findings. (3 marks)



▲ Figure 19.1 A scatter diagram to show the relationship between the number of CBT sessions attended and the score on a standardised questionnaire measuring worry

4. Luis is conducting a series of focus groups with people who care for a relative with long-term physical and mental health problems. He wants to investigate how daily hassles and uplifts affect their well-being and attitudes towards their role as carers. Discuss Luis's decision to use focus groups in his study. (8 marks)

# TOPIC H

# CLINICAL

# PSYCHOLOGY



Clinical psychology is about the classification, diagnosis, explanation and treatment of mental and behavioural disorders. At the start of this topic you will learn about how decisions are made about which behaviours, thoughts and feelings are unusual or harmful enough to warrant further investigation. You will also learn about how disorders are classified and diagnosed using manuals such as the DSM-5 and the ICD-11. Next, you will learn about two disorders in detail, schizophrenia and depression or anorexia nervosa. You will learn about symptoms, features, explanations and treatments for these disorders. The remaining chapters discuss relevant classic and contemporary studies, methods and ideas for your practical investigation.

# CHAPTER 20 DEFINITIONS AND DEBATES IN DIAGNOSIS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- definitions of abnormality including the history of abnormality, statistical infrequency definition and failure to function adequately including Rosenhan and Seligman (1989)
- classification systems including ICD and DSM
- debates in diagnosis including cultural issues and reliability and validity in diagnosis.

## GETTING STARTED

Imagine how it feels when you wake up in the morning and realise you have a cold. How do you know this? What are the signs, i.e. what can you see and/or hear? What are the symptoms, i.e. things that only you know about that other people cannot see or hear? Are there any objective ways of deciding whether someone has a cold? How would you decide whether it was a simple cold, influenza or COVID-19? Scientists, including doctors, prefer empirical data. This means information that can be gathered directly through the senses. They also prefer their data to be objective (free from bias) and reliable. For example, two doctors should be able to assess the same person and agree on their diagnosis.

- Why do you think making diagnoses of mental health disorders like depression might be more difficult than diagnosing physical health problems like a broken bone or a heart condition?
- How might these difficulties in diagnosis affect the individual, their family and society?

## A NOTE ON TERMINOLOGY

Throughout this topic, the term 'practitioner' is used to refer to doctors and other professionals working with people with mental disorders. This is because many types of professional may be involved. A practitioner is anyone involved in clinical practice, in contrast to clinical researchers who may be involved with patients but are not responsible for their care and only meet with them to collect data. Sometimes practitioners play a dual role, meaning they are also a researcher. The term 'patient' has been used to refer to people seeking help from mental health professionals (practitioners) but also refers to those receiving treatment on an involuntary basis. The term patient fits with a more medical approach to mental health care and tends to be associated more with biological treatments and therapies. While practitioners use a range of psychological and biological approaches to treatment, we felt that the term patients would be understood by the majority of readers. Terms that you may see used in other places include 'service user' and 'client'.

## DEFINITIONS OF ABNORMALITY

Distinguishing between normal and abnormal is arguably an impossible task. This is because it is a highly subjective decision, meaning opinions vary considerably over time and from one culture to another. You may also feel that it is also wrong to class some people as 'abnormal' because of the stigma associated with this term. When this term is used by clinical psychologists it is generally a first step towards helping people to access support and/or treatment that may help to improve their quality of life. However, such labels may also lead to negative consequences in terms of prejudice and/or discrimination. This means practitioners must use language responsibly to minimise harm and maximise positive outcomes for individuals and their families as well as other members of their support networks.

In this section you will learn how ideas about psychological normality and abnormality have changed over time. Next, you will learn about two definitions of abnormality that are used to

identify people who may benefit from a more detailed assessment of their health and well-being.

## THE HISTORY OF ABNORMALITY

Many aspects of modern life could be seen as responsible for changes in our well-being and mental health, including the pandemic and rapid advances in technology, as well as a range of other global stressors. However, behaviour that is unexpected or unusual has been identified for centuries using a wide variety of terms, including 'mad' and 'insane' through to 'maladjusted' and 'dysfunctional'. In fact, the term 'unstable' was first used to describe people whose behaviour was unpredictable or irrational 800 years ago in 1225 CE (*OED*, 2023).

### KEY TERMS

**psychogenic explanations:** explanations for mental disorders which focus on psychological (mental) rather than biological causes

**trepination:** an ancient procedure involving the removal of piece of skull bone; thought to have been used to relieve pressure from swelling in the brain but in some cultures it has specific spiritual relevance

Majority world explanations of psychological abnormality often emphasise the role of supernatural forces, e.g. the influence of deceased ancestors (Okafor et al., 2022). Some of these views may be up to half a million years old. This is evidenced by skulls dating from the Stone Age. Circular holes in these skulls suggest the person has undergone **trepination**, an ancient technique that some people at the time believed would release evil spirits.

### The four humours

Hippocrates (460–377 BCE), an ancient philosopher, was the first to propose that mental disorders were similar to physical disorders and had physiological causes. He believed abnormality resulted from an imbalance of four bodily fluids called humours: yellow and black bile, blood and phlegm. Excesses or deficiencies of any one of these could lead to a range of different disorders. He also believed these issues could be resolved through lifestyle changes such as living a quiet life, eating more vegetables and exercising regularly. These views are surprisingly similar to those of modern scientists regarding treatments for mild depression.

### LINK

For more on depression see pages 287–300.

In the 11th century CE, another philosopher and doctor, Ibn Sina, also wrote extensively about mental disorders, their possible causes and treatments. He further developed the idea of the four humours and his groundbreaking opinions about the connections between the mind and the body influenced both Islamic and European medicine, paving the way for modern psychiatry (Pajević et al., 2021). However, at the time these theories were not well received. The majority of people still believed that the ultimate cause of psychological abnormality was the influence of external, supernatural factors.

### Asylums

The first hospital for mental disorders was founded in Mesopotamia (Iraq) and dates back to 705 CE. During the Islamic Golden Age (8th to 14th centuries CE) many *bimaristans* (Persian for 'places for the sick') were built across northern Africa, including in Cairo, Egypt and later in Moorish-occupied regions of Spain. Treatments were often religious and/or spiritual. Similar institutions were created across Europe. However, they admitted far more people than they could humanely accommodate. This led to overcrowding and appalling living conditions. One of the most famous asylums was Bethlehem Hospital in London, UK which opened in 1547. Patients were beaten, chained like animals, fed with rotten food and kept in dark and cold conditions.

### Moral treatment

Throughout the 19th century, the treatment of mental health patients began to improve. Moral treatment focused on developing respectful relationships between patients and staff. Asylums were bright and airy. Patients moved freely around the buildings and grounds. Therapy involved rest, talk, regular walks and manual labour. Staff were sensitive and caring and many patients recovered almost completely. Slowly, new ideas about the causes of the mental disorders began to gain attention, regarding possible psychological origins of mental disorders. These psychological theories are collectively referred to as **psychogenic explanations**.

**KEY TERM**

**statistical infrequency definition:** a person's behaviour, thoughts and feelings may be classified as abnormal if they are statistically rare (uncommon) within the target population/society

**Defining abnormality**

Now that you have a better understanding of how people have explained and managed abnormal behaviour throughout history, we can turn to modern ways of distinguishing normal from abnormal behaviour. Such decisions are critical as they can help people to access support and treatment but can also lead to stigmatisation depending on attitudes towards mental health and well-being. In the next section, you will learn about two definitions that are used to distinguish between normality and abnormality.

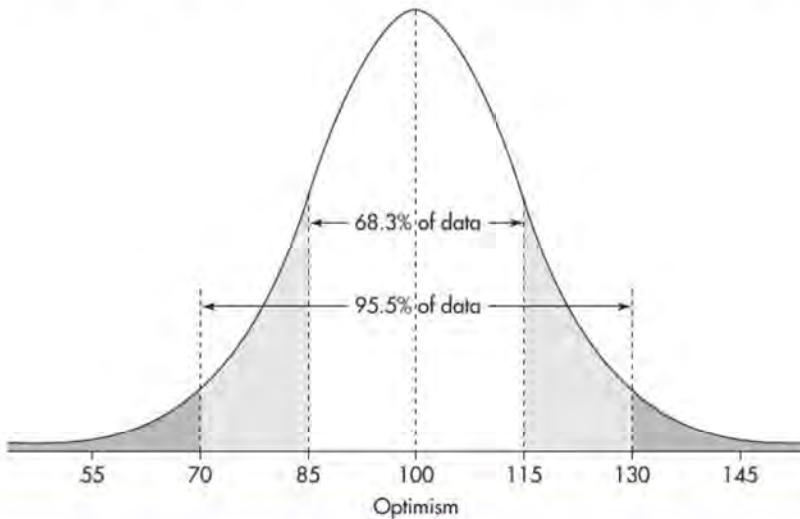
**STATISTICAL INFREQUENCY DEFINITION**

The **statistical infrequency definition** states that a person's behaviour, thoughts and/or feelings are abnormal if they are rare or uncommon. Therefore abnormality is assessed through making comparisons with other people. To make such classification, it is necessary to know what is typical or common within the population.

One way is to do this is to use psychometric tests to establish statistical norms. Quantitative data may be collected about a certain trait, such as optimism, through asking a series of closed questions that result in a score. Scores can then be plotted on a graph. If a large enough sample is used they should form a normal distribution (Figure 20.1). This curve can then be used to identify scores which are abnormally high, (more than two standard deviations above the mean) or abnormally low (more than two standard deviations below the mean).

People with abnormally low optimism scores would be very pessimistic, meaning they tend to believe negative situations will not change in the future and/or things may become even worse. This degree of hopelessness may make a person vulnerable to depression, for example. Unusually high optimism scores may make a person less vulnerable to depression, but may also bring its own problems.

In Figure 20.1, the mean level of optimism is 100 and the standard deviation is 15. This means that 95.5 per cent of people score between 70 and 130. Anyone who scores less than 70 (very pessimistic) or more than 130 (very optimistic) would therefore be classed as abnormal.



► Figure 20.1 Normal distribution curve

**MATHS TIP**

A normal distribution is symmetrical and is sometimes called a bell curve. The mean, median and mode are all exactly the same; they form the central line that cuts through the middle of the curve. Therefore 50 per cent of people achieve scores below the mean (median and mode) and 50 per cent above; 95 per cent of scores are within two standard deviations of the mean. The remaining 5 per cent of scores lie outside of this range and are classified as abnormal.

**LINK**

You learned about normal and skewed distribution in Student Book 1, page 51.

**Evaluation**

A strength of the statistical infrequency definition is that using quantitative data makes it more objective, as no clinical judgement is necessary. This means people are treated fairly regardless of their appearance, gender or ethnicity. This is important as certain diagnoses are more common in certain social groups, e.g. depression is more commonly diagnosed in women than men. This can lead to bias in the way practitioners think about patients/service-users. Using scores obtained from well-established psychometric tests avoids the need for any personal judgement. This is helpful as people who do not fit the usual stereotypes for certain disorders are less likely to be overlooked, while others who may be incorrectly labelled due to the practitioner's personal biases may have their case viewed more objectively.

A further strength of the use of quantitative data is that the decision-making about who is classed as normal and who is abnormal is more reliable. This is because no judgement is necessary, meaning clinicians are more likely to be in agreement with one another. This is beneficial to individuals and their families as it can be stressful and confusing if practitioners give differing opinions, especially when people are already vulnerable owing to the individual's unusual behaviour.

**LINK**

Culture and gender issues are discussed in detail on page 386.

A weakness is that the cut-off points are rather arbitrary and this relates to difficulties in collecting only quantitative data to make decisions about normality which could affect the person's ongoing quality of life. For example, the way a person answers a single test item could determine whether they are classed as normal or abnormal and therefore whether or not they are referred for treatment. This is problematic as it may be more important to determine how the person feels about their behaviour, thoughts and feelings. Collecting some qualitative data using open questions/clinical interviewing may also be beneficial, particularly in the case of people who score only just high or low enough to be classed as abnormal. If the person, or other family members are experiencing distress this should also be taken into consideration.

**SKILLS**

COLLABORATION, ETHICS,  
EMPATHY

**ACTIVITY 1**

Imagine you have received 53 per cent on your most recent psychology assessment. The class average was 72 per cent and the standard deviation was 8. Your teacher is running extra support sessions at lunchtime for anyone with an abnormally low score. Will you be asked to attend the sessions? Do you think the teacher is right to take this approach to prioritising which students will get support? Can you think of any open questions they could ask to help to ensure the students with the greatest need are able to access the extra support? In pairs, role play the teacher and student discussing this.

Another weakness is that this definition does not consider the social desirability of the measured traits. For example, imagine if the trait being measured is empathy for others; a very high empathy score might be seen as socially desirable in a population of hospital nurses or teachers, whereas a very low score might suggest that they would face challenges in these jobs. In the business world, empathy may be less important and may in fact be a disadvantage. For example, negotiating deals may be difficult if the person is overly concerned about the impact on other people. In this population a lower score may be more desirable. This shows that when using the statistical infrequency definition, individuals must be compared with norms that are based on people from a similar social and/or cultural background otherwise conclusions may not be valid.

Also, on a test designed to measure self-esteem, it is generally considered that low self-esteem is more detrimental to a person's well-being than high self-esteem. However, in some cultures it may not be socially desirable to focus on one's strengths and may instead

appear boastful or immodest. This does not mean that people who score lower on the test are abnormal, simply that they are answering in a way which fits with cultural norms and expectations.



Depression is a common diagnosis with a global prevalence of 5 per cent (WHO, 2023) and rising to as many as 18 per cent in the United States (Lee, 2023). If depression is not rare does this mean it is normal? Is it more helpful to see depressive behaviour as normal or abnormal?

### FAILURE TO FUNCTION ADEQUATELY

'Failure to function adequately' is another definition of abnormality that may be used in addition to or as an alternative to the statistical infrequency definition. If someone is failing to function it means they are not coping with everyday tasks, including work or social activities. It may be that the person is aware of this themselves and has insight into the difficulties they are facing. However, sometimes the person may be unaware that they are no longer as functional as they have been at other stages in their life – this may have been identified by friends, relatives and/or carers, for example. They may be struggling with self-care, e.g. washing, brushing teeth, eating regular nutritious meals or keeping themselves safe from harm.

Failure to function can be measured objectively using a psychometric test called the Global Assessment of Functioning (GAF), a checklist which helps practitioners to assess the extent of a patient/service-user's impairment. When abnormal thoughts, feelings and behaviour interfere or disrupt a person's ability to function, with regard to their age and stage of development, it can be a useful indicator regarding whether the person would benefit from a more detailed diagnostic assessment.

Problems may not be immediately obvious and therefore it is important that practitioners carry out detailed clinical interviewing, exploring all aspects of a person's life to determine whether they are functioning at a level that might be expected given other traits, skills and abilities. Rosenhan and Seligman (1989) discussed seven indicators of failure to function which can be used to gain a deeper insight into the person's daily life experiences and the impact their abnormal thoughts, feelings and behaviour may be having on themselves and other people (see Table 20.1).

TABLE 20.1: ROSENHAN AND SELIGMAN'S (1989) CRITERIA FOR ASSESSING FAILURE TO FUNCTION

Criteria	Description
Suffering	The subjective experience of the patient is very important here; sometimes people may appear to be dysfunctional to others but they are happy and not concerned by what others perceive to be a problem. Likewise, other people may be very distressed by what may appear to be more trivial issues.
Maladaptiveness	A person who is maladapted doesn't have all the skills, qualities or abilities needed to thrive in a certain physical or social environment. They might even be a danger to themselves or others. This can be assessed using the GAF.
Vividness and unconventionality	It is often possible to make quick judgements about abnormality based on a person's behaviour; if they 'stand out' in comparison to other people, i.e. people who draw attention by violating social norms for expected/socially acceptable behaviour.
Unpredictability and loss of control	People are expected to be predictable from one occasion to the next; if they are inconsistent this suggests that they may not be in complete control of their behaviour, thoughts and feelings and may be taken as a sign of abnormality.
Irrationality/incomprehensibility	When we cannot understand why a person is behaving in a certain way, i.e. their behaviour seems illogical or without reason, we may label it as abnormal.
Causes observer discomfort	If a person's behaviour causes other people to feel uncomfortable, this may also be a sign of abnormality. Most people do not want to cause offence or distress to others and therefore modify their public behaviour accordingly, however when this is not the case, their behaviour may be viewed as abnormal.
Violates moral/social standards	This is behaviour that deviates from common standards relating to 'right and wrong' across many human cultures.

**LINK**

In this unit you will learn about schizophrenia (pages 275–286) and one other disorder, either depression (pages 287–300) or anorexia nervosa (pages 301–313). These disorders are only diagnosed if the symptoms are severe enough to impair the person's daily functioning.

**Evaluation**

A strength of the failure to function definition of abnormality is that it considers people's experiences, i.e. the impact of their behaviour, thoughts and feelings on their daily life. This helps to ensure that the definition is not underinclusive. For example, if you only used the statistical infrequency definition, a person would not be classed as abnormal and provided with the support that they need unless their score fell outside two standard deviations from the mean, even if their symptoms were having a negative impact on their daily functioning. It also ensures the definition is not over-inclusive. For example, it avoids labelling people who are coping very well with life and not causing any one else any harm, even if their behaviour is statistically rare.

A weakness is that experiences are difficult to measure as they cannot be directly observed. This means interpretation is necessary and this is subjective and therefore may be unreliable. Practitioners may have differing views on what is dysfunctional, depending on their own personal or cultural standards. This is why measures like the GAF are helpful as they are more objective. However, the numerical scores do not provide context. A person who has not eaten for five days may be viewed as dysfunctional, but if they are on a hunger strike (e.g. to raise awareness of human right abuses) their behaviour may be perceived as less incomprehensible. Therefore, according to Rosenhan and Seligman's criteria, fasting (not eating) should not be taken as an indicator of abnormality unless the behaviour violates other criteria.

Another weakness of this definition is that many people appear to be functioning very well according to the norms of the culture in which they live. However, they meet criteria for antisocial personality disorder due to their extreme lack of concern/regard for others' feelings/well-being. These people function well personally and may seem quite charming, yet they can be ruthless and exploitative meaning they will use other people to get what they want. Such people may not be identified using this definition and may not meet any of Rosenhan and Seligman's criteria either, although often their desire for control means their behaviour may become irrational/unpredictable over time.

This leads to other important considerations when making decisions about normality versus abnormality, including duration. How long a person has been showing signs of abnormality is a critical indicator of whether they should be referred for further assessment. For example, a person might not clean their home for a few weeks because they are working very long hours. This could be taken as a sign of abnormality under the failure to function definition; however, if the situation quickly resolves once the busy period has passed, then the label may be unjustified. If the person does not clean their home for months and it is becoming so untidy/unhygienic that it is difficult to enjoy family activities, find space to work or eat together, this may be a more useful indicator of abnormality.

## WIDER ISSUES AND DEBATES

### The issue of social control

Now that you have read about how abnormality has been defined through the ages and ways that practitioners think about abnormality today, you may be able to see that labelling people's behaviour, thoughts and feelings as abnormal is the first stage in a process which could lead to a diagnosis and treatment. Psychiatrists may also be consulted when making decisions about whether people should be allowed to live freely within the community or within a secure mental health hospital. These professionals therefore, have a lot of power as their judgement may be relied upon when making decisions about the removal of certain people from society. This could include people who are so mentally unwell that they are a physical danger to themselves or others but it could also include people whose behaviour may be seen as damaging to society.

Academic and psychiatrist Thomas Szasz suggested that defining abnormality is impossible as social and cultural norms are constantly shifting and evolving. He believed mental illness was a concept invented to control and change people who do not fit in with society's needs and expectations (Comer, 2010).

## KEY TERMS

**classification system:** a systematic framework used to organise and categorise information

**prevalence:** the percentage of a population that has a particular mental health condition at a specific point in time or within a specific period

**prognosis:** the anticipated course and outcome of a mental health condition, including the likelihood of recovery, improvement

## CLASSIFICATION SYSTEMS

**Classification systems** are detailed manuals containing checklists of signs, symptoms and features including **prevalence**, **prognosis** and risk factors associated with hundreds of different mental health disorders.

The first diagnostic handbook was carved onto 40 clay tablets. Created by the Babylonians approximately 4000 years ago, the handbook included detailed descriptions that were very similar to those used today (Reynold and Wilson, 2014). However, modern classification systems are based on the *Compendium der Psychiatrie* by Emil Kraepelin, published in 1883. He believed that mental and behavioural disorders that have physical causes and therefore should be viewed as part of medical science. Using his system, he believed it should be possible to reliably diagnose disorders by their symptoms and predict the course of the disorder, just like other illnesses.

**KEY TERMS**

**delusion:** fixed beliefs that conflict with others in the person's community and are resistant to change even in the face of conflicting evidence

**International Classification of Diseases (ICD):** a globally recognised and widely used classification system including both physical illnesses and health problems and mental and behavioural disorders

**schizophrenia:** a psychotic disorder in which the person experiences disturbances to their thinking, emotions, speech and behaviour including difficulty in differentiating between their own internal thoughts and ideas and events and stimuli in the external world

**schizotypal disorder:** similar symptoms to schizophrenia; the person may show enduring eccentric or unusual behaviour, appearance, thoughts/beliefs and/or speech; the intensity and duration of symptoms is not sufficient to gain a diagnosis of schizophrenia

Today, huge teams of practitioners and researchers collaborate to decide on how different disorders should be defined. The systems are updated every few years based on the latest scientific research with the objective of improving reliability and validity of diagnosis. This is necessary to ensure that patients are offered the most appropriate treatments and therapies for their specific circumstances.

Two widely-used systems are discussed below; however some countries have their classification systems such as the Chinese Classification of Mental Disorders (CCMD), which is now in its third edition.

### THE ICD-10 AND 11

In 1948, the World Health Organization published the **International Classification of Diseases (ICD)**. This multilingual system was created to facilitate international communication about physical and mental health. It has been revised several times and the most recent version, ICD-11 came into global use in 2022, 30 years after ICD-10 in 1992.

All human diseases and illnesses are organised into a logical, clear and simple hierarchical system. Each diagnosis has a code starting with a letter followed by a series of numbers. Codes for mental and behavioural disorders start with the letter F. Disorders are grouped into categories and subcategories. For example **schizophrenia** (F20) is part of a group called Schizophrenia, **schizotypal** and **delusional** disorders (F20–29). F20 includes nine subtypes of schizophrenia, including 'paranoid' and 'hebephrenic'. This coding system allows the clinician to go from the general to the specific and to convey their diagnosis to others in an easy and systematic way.

To make a diagnosis, practitioners use interview schedules and checklists based on the ICD criteria to gather self-reported data from the individual and their family, friends and/or carers. This is combined with other information contained within the person's medical records to make a diagnosis. Initially, this may be provisional, meaning that it may change as more information about the patient becomes available.

ICD-11 was designed to be used online and to integrate with systems used to create and store electronic health records. It reflects advances in medical sciences and uses updated and more consistent terminology throughout.

### Evaluation

A strength of ICD-11 is that it is more flexible than ICD-10. The coding system allows for more precise and detailed diagnoses. One change is that the codes now allow practitioners to record details of social and environmental factors. This is similar to axis four in the DSM (see the next section on the DSM) which has been removed in the most recent update. This means diagnoses are more holistic and individualised to the patient's needs.

A further strength is that each section includes a few blank codes meaning that, when the system is revised, new disorders can be added without having to change the codes for other disorders. This is a strength as it makes it more practical and easier as codes will not change over time which could be confusing and lead to mistakes.

A weakness of ICD-10 is that compared with DSM-5, it under-emphasises the importance of cultural factors when making a diagnosis, suggesting that the need for this sort of information has reduced over time. However, others feel that the exact opposite is true, stating that attention to culturally-accepted ways of expressing distress is a critically important issue when working with patients from a diverse array of cultural backgrounds (Paniagua, 2018).

A weakness of ICD-11 is that now the system is more precise, this means it has also become more complicated to use. Practitioners may not have sufficient time with each patient to use the system as intended which may lead to inconsistencies and reduced reliability. It also means that complex training is required to help practitioners to use the system effectively and this

can add a financial burden to the process of diagnosis, money which may be better spent on treatment and patient care.

### THE DSM

In 1952, the American Psychiatric Association published its own classification called the Diagnostic and Statistical Manual of Mental Disorders (DSM). Like the ICD, this system has also been revised several times, most recently in 2013. Like the ICD, the DSM also groups similar disorders together. This allows practitioners to begin with a more general diagnosis, before determining which specific diagnosis is the best fit for the person's specific symptoms and circumstances.

### DSM-IV-TR

DSM-IV was published in 1994 and updated to DSM IV-TR (text revision) in 2000. It was described as a 'multiaxial tool' because of its five axes or chapters (see Table 20.2). Information relating to each of these axes was used to decide not only whether a diagnosis was appropriate but also to assess the need for treatment and the type of treatment necessary.

TABLE 20.2: THE FIVE AXES OF DSM-IV

Axis	Description
1	Major mental health disorders, e.g. schizophrenia and anxiety disorders and substance-use disorders (SUDs).
2	Personality disorders and mental retardation.
3	Medical conditions, e.g. traumatic brain injury, which may be related to the onset of mental health issues.
4	Psychosocial and environmental issues which may be related to onset or course of a mental health disorder; e.g. loss of housing or employment as triggers for depression.
5	A scale to assess global functioning, including everyday activities such as washing, dressing and socialising.

### DSM-5 and DSM-5-TR

In 2013, the APA stopped using Roman numerals to refer to new versions of the DSM. This was done to allow for clearer labelling of future updates e.g. DSM-5.2.

DSM-5 is divided into three sections. The first explains the changes from DSM-IV-TR. Section two lists 298 disorders organised into 20 chapters, each of which focuses on disorders that share similar symptoms and/or possible causes. Section three gives details of assessment measures, guidelines on culture differences affecting the presentation of symptoms and suggestions for new disorders which require further research.

DSM-5 takes a lifespan approach, recognising the importance of age and life stage. The multiaxial system was removed, including the GAF. This was because of problems with the validity of the GAF and crossovers with other axes. The descriptions of 70 of the disorders were revised and this included moving some disorders from one chapter to another. The DSM-5 also takes a dimensional approach, meaning that it takes account of the intensity (e.g. mild, moderate, severe) of a person's symptoms and recognises that many disorders exist on a spectrum. In addition, it takes into account overlapping or cross-cutting symptoms present across many different disorders.

In 2022, the DSM-5-TR was released. This update reflects important advances in mental health research since the previous version. Experts in culture, gender and forensics reviewed all chapters and there was a special focus on ethnoracial equity and inclusion to identify issues relating to discrimination and use of non-stigmatising language.

**EXAM TIP**

As the specification mentions both DSM-IV and DSM-5 and ICD-10 and ICD-11, you need to be prepared for comparison questions in the exam. The command term 'compare' requires that you provide at least one similarity and one difference in order to access the full range of marks. If you were asked to compare the two versions of the DSM, you could describe the multiaxial system which was used in DSM-IV but removed from DSM-5 in favour of the dimensional approach. In terms of similarities you could mention that both versions include a similar number of disorders grouped into chapters (298 in DSM-5 and 297 in DSM-IV-TR).

**Evaluation**

A strength of DSM-IV, compared with previous versions, was that it included the multiaxial approach. This helped to make diagnoses more personalised and holistic. The inclusion of contextual factors relating to the person's life circumstances and the impact of the symptoms on their daily functioning helped to ensure that those with greatest needs were prioritised and those who were coping well were offered more informal support rather than making an unnecessary referral for treatment. However, in practice, the multiaxial system proved complex to use and practitioners tended not to use it as intended, focusing more on axis 1 than any of the others. Also, there were issues with reliability and validity of this approach, particularly the GAF. This led to its eventual removal from DSM-5.

A weakness of DSM-IV was the categorical approach, i.e. the suggestion that someone either has a certain disorder or they do not. This binary approach means that people with mild symptoms of a disorder may not be diagnosed even though early support may slow the course of the disorder. However, this issue was resolved in DSM-5 which introduced the dimensional approach, described above. This is also a strength of DSM-5.

A strength of DSM-5 is the focus on 'cross-cutting' or overlapping symptoms and ways that these can be measured, such as the Cross-Cutting Symptom Measure. This self-reported structured questionnaire, including 23 five-point Likert scales, is used to measure how often people experience issues which relate to many different disorders and can help practitioners to decide which areas to prioritise for further investigation. This is part of the dimensional approach which recognises that many people have comorbid disorders some of which may be more severe than others.

A weakness of DSM-5 is that some people feel that it pathologises (medicalises) many normal and relatively common human emotions and behaviours, meaning they are becoming viewed as abnormal and stigmatised. This concern is also linked to the influence of the pharmaceutical industry on the development of the DSM-5, since medicalising certain issues means there is an increased need for treatments, resulting in greater sales.

**THINKING LIKE A PSYCHOLOGIST**

Both classification systems have faced fierce criticism over the years. However, in many cultures, some form of assessment is necessary before people are able to access formal treatment/therapy. However, critics including Lucy Johnstone advocate a 'trauma-informed approach' to mental health. This approach recognises that many symptoms are a reaction to traumatic experiences. The question for practitioners here is not 'what is wrong with you?' but 'what happened to you?' The focus is on allowing patients to tell their story in their own words, meaning it is less likely to be distorted by the practitioner's questions, which may reflect certain biases and/or assumptions.

**KEY TERM**

**clinical interview:** the process of evaluating a client by gaining important personal information about them regarding their health

**WIDER ISSUES AND DEBATES****Practical issues in the design and implementation of research**

The diagnostic process is often conducted through **clinical interviews** with patients by clinicians. These are unstructured or semi-structured interviews. Consider the nature of un/semi-structured interviews in terms of reliability and validity, and how these issues may relate to gathering information from patients about their symptoms in order to diagnose them correctly. There are also problems with the self-report method generally. These include, for example, whether patients tell the truth, withhold or embellish answers when giving self-report data to the researcher/clinician. This could seriously affect the validity of the diagnosis reached. It is not just the patient's responses that can lead to misdiagnosis. A clinical interview is guided by the clinician's questions and, if they focus on one particular set of symptoms, their diagnosis may be different from a clinician who focuses on a different symptom.

**DEBATES IN DIAGNOSIS**

The next section examines three issues which may affect the diagnostic process and could reduce its usefulness.

**CULTURAL ISSUES IN DIAGNOSIS**

Differing cultural norms and values mean that behaviours categorised as normal in one culture may be seen as abnormal in another. For example, public displays of emotion, including laughing or shouting with excitement, are socially acceptable in some cultures but not in others. This means that it can be difficult to establish culturally universal patterns of behaviour which indicate mental disorders. For example, in certain cultures it is rare to express aggression. This means thresholds may be much lower regarding when a person is deemed to be abnormal and therefore in need of assessment and/or diagnosis. This helps to explain why psychiatrists in some cultures have been found to rate childhood hyperactivity as more severe than psychiatrists in other areas of the world (Canino and Alegria, 2008).

Psychiatrists may also experience difficulties when diagnosing people from cultural backgrounds that differ from their own. Unless they have a deep understanding of their patient's cultural background, they may rely on stereotypes and inaccurate biases and/or preconceptions. Also, people from diverse cultural backgrounds may experience and/or express distress or psychological suffering in different ways depending on the norms and values of the cultures to which they have been exposed. For example, panic symptoms may include uncontrollable crying and headaches in some cultures and breathing difficulties in others. This demonstrates that practitioners need detailed cultural knowledge to improve the validity of diagnosis.

Initially, the ICD attempted to minimise subjectivity in diagnosis by creating tightly defined symptoms for each disorder to increase reliability. The ICD-10, for example, was developed to help researchers and practitioners to identify culturally universal clusters of abnormal traits that can be used to diagnose mental disorders. The rationale for this was to help ensure that people were diagnosed appropriately despite cultural differences and to develop a 'common language' to discuss mental disorders experienced by people throughout the world. This said, the ICD-10 did include a variety of culture-specific disorders (called culture-bound syndromes in DSM IV-TR). Examples include *amok* and *piblokto* (see Table 20.3). These disorders were believed to only exist in certain cultures. However, some of the symptoms are similar to each other, suggesting they are not culturally-exclusive and are better explained as localised ways of exhibiting the same underlying issues. This is in keeping with the ICD's approach of minimising the role of cultural difference and maximising global applicability.

TABLE 20.3: CULTURE-SPECIFIC DISORDERS (PREVIOUSLY REFERRED TO AS CULTURE-BOUND SYNDROMES AND CULTURE-SPECIFIC DISORDERS)

Name	Classification system	Groups in which disorder is observed	Symptoms
Amok	ICD-10 and DSM-IV-TR, not in DSM-5	Men, Southeast Asia	Episode of social withdrawal and apathy, followed by a brutal, unprovoked attack on nearby individuals. Often followed by collapse and exhaustion.
Piblokto	DSM-IV-TR but not in ICD-10 or DSM-5	Inuit women and other Arctic populations	Sudden onset dissociative episodes, excitement, removal of clothing, screaming, throwing things; episodes conclude with convulsive seizures and individuals often have no memory of the episode (amnesia).

Finding culture-free ways of making a diagnosis may, however, not be possible and may result in people not receiving the support and care they require. DSM-5 attempted to improve its usefulness with culturally diverse patients in a number of ways. All disorders were reviewed to ensure that, where appropriate, descriptions include cross-cultural variations in the presentation of symptoms.

#### KEY TERM

**losing face:** 'facework' refers to behaviours (e.g. tact, politeness, diplomacy) employed in social situations to preserve the dignity (face) of oneself and others; 'loss of face' may occur if cultural norms are violated

A similar approach has been taken in ICD-11 which emphasises that cultural considerations must be uppermost in the practitioner's mind during all interaction with patients. Instead of including a list of culture-specific disorders as an appendix, cultural variations in the presentation of disorders have been incorporated throughout the manual. For example, ICD-10 included a cultural specific disorder called *taijin kyofusho*. This is now seen as part of social anxiety disorder. Previously, this disorder focused on fear of negative evaluation/judgement by others. It now includes a section of fear of offending others, for example causing others to lose face.

On the one hand it could be argued that classification systems such as the ICD and DSM are affected by culture, meaning some people may be more likely to receive a diagnosis than others and that the diagnoses received are culturally dependent. For example, Littlewood and Lipsedge (1997) note that West Indian and Irish immigrants admitted to British hospitals were more likely to be diagnosed with schizophrenia than people from other cultural groups. This may have been a direct result of cultural bias within the diagnostic system. However, it is also possible that people from these groups were more likely to face stressors such as discrimination and live in urban areas, both of which are risk factors for psychosis. Psychosis is a mental health condition which means that people lose touch with reality and it can be caused by conditions such as schizophrenia.

Evidence to support the argument that contemporary versions of the classifications systems are more suited to a culturally diverse population comes from a study conducted in South Korea. Lee and Kang (2012) found that the DSM-IV-TR was a valid and reliable measure of ADHD in a large sample of children from 48 schools. This shows that despite differing cultural norms and values between the United States (where the manual was developed) and South Korea, the system is still useful for identifying children who may require additional support.

Also, the DSM-5 now includes a clinical interview schedule called the Cultural Formulation Interview (CFI) to help practitioners to be more culturally-aware and patient-centred in their

**KEY TERMS**

**biomarker:** a molecule that can be found in bodily fluids (e.g. blood, saliva) or through the collection of other samples (e.g. hair) that indicates normality or abnormality, e.g. metabolites found in blood can be used to measure the breakdown of specific neurotransmitters in the brain

**Cohen's kappa:** a number between 0 and 1 that represents the degree of agreement between two raters (0 is no agreement, one is perfect agreement); the number takes into account the degree of agreement that would be expected by chance alone; less than 0.4 is poor agreement, 0.4-0.7 fair to good and 0.75 and over is excellent

approach. This includes questions about the person's cultural identity and how other people from the same cultural background might think about the causes of the person's symptoms. This suggests that cultural differences will be taken into account when making a diagnosis that will be based on information derived from the patients rather than the practitioner's preconceptions.

### RELIABILITY IN DIAGNOSIS

Reliable diagnoses are essential to ensure that a patient receives the correct treatment for their condition and an accurate prognosis can be given. In this context, reliability refers to the extent to which two or more practitioners consistently diagnose the same person in the same way. A high level of agreement shows that the diagnosis is reliable. This is known as inter-rater reliability. Another way of assessing reliability is to examine the extent to which a person receives the same diagnosis when assessed at two different points in time using the same system or measures. A statistic called **Cohen's kappa** is often used to indicate the consistency or reliability of diagnosis.

Inconsistencies can arise for a variety of reasons. As there are no **biomarkers** for mental disorders, psychiatric diagnosis is more subjective than diagnosis of other health problems. Problems with reliability can result from the reliance on self-reported symptoms. For example, what a patient reveals to a practitioner will be determined by many cultural, social and personal factors. A person may feel ashamed of certain symptoms, e.g. intrusive thoughts about socially unacceptable topics, and fail to share these during the diagnostic interview. Alternatively, they may not remember their thoughts and feelings. For example, a person who is currently feeling depressed may find it more difficult to recall more positive memories.

However, inconsistencies may also result from differences between practitioners and the way they interpret the classification systems. For example, Aboraya (2007) states that various factors including years of experience, confidence in interviewing and practical issues such as available time and funding can affect the process of gathering information to make a diagnosis; if practitioners make a diagnosis based on differing quality and quantity of information, there are likely to be differences in the outcome.

One specific problem with the DSM and the ICD is that they include disorders with overlapping symptoms. For example 'difficulty concentrating' is a cognitive symptom that is present in both depression and Attention Deficit and Hyperactivity Disorder (ADHD). This could mean that two practitioners interpret the same symptoms in different ways, therefore giving different diagnoses. Likewise, practitioners may exhibit confirmation bias, i.e. paying greater attention to symptoms that confirm their initial thoughts and less attention to those that do not. This could also lead to different diagnoses from different practitioners.

Another reason that a person's diagnosis may be unreliable, i.e. change over time, is that mental health symptoms can become more or less severe at different points in time. This may mean that a person reports their symptoms differently at the two time points, leading the practitioners to change their opinion about which diagnosis is currently the best match for their symptoms.

### LINK

See pages 275–277 for more about the diagnosis of schizophrenia.

Support for the idea that classification systems such as the DSM are unreliable comes from an early study by Aaron Beck and colleagues (1954). They found only 54 per cent agreement between four practitioners who independently interviewed and diagnosed 153 patients, suggesting low reliability in the first version of the DSM. Later, Clyde Ward (1962) found that 63 per cent of disagreement resulted from inadequacy of the classification system, 33 per cent from the psychiatrist's interpretation of the symptoms and only 5 per cent from inconsistency in the information supplied by the patient.

Despite problems with the earlier versions, field trials have demonstrated that the newer versions have much improved reliability. For example, Brown (2001) found good to excellent agreement between two independent raters who diagnosed 362 outpatients with anxiety and mood disorders. When disagreement did arise this was often around whether symptoms had been present for long enough and were severe enough to warrant a diagnosis. Likewise, the DSM-5 has also been shown to be reliable for the diagnosis of disorders such as post-traumatic stress disorder, which received kappa values of between 0.60 and 0.79 which was classified as 'very good' (Regier, 2013). Disorders such as schizophrenia have lower kappa values of 0.40–0.59; but this is still viewed as 'good'. However, some disorders received kappa scores which were classified as 'questionable', (e.g. major depressive disorder, generalised anxiety disorder) and unacceptable (mixed anxiety-depressive disorder).

### THINKING LIKE A PSYCHOLOGIST

Do you think that kappa values of 0.40–0.59 should be classed as good? What do these values mean in real terms? Imagine a family member or friend has been diagnosed with schizophrenia or depression. How confident would you feel in this diagnosis? What action might you take before accepting the proposed course of treatment?

### VALIDITY IN DIAGNOSIS

Validity in diagnosis refers to the ability of practitioners to accurately identify people who have mental disorders from those who do not. This is not always a straightforward task. People may be motivated to obtain or avoid diagnosis for many reasons. For example, some people may want to be labelled to help them to understand certain events in their lives, while others may want a diagnosis to avoid work or other forms of service. But other people may wish to avoid diagnosis as they feel it is unnecessary or because they want to avoid perceived financial costs and/or stigma.

Validity in diagnosis also refers to the ability to provide a meaningful and useful diagnosis, i.e. one which is the best fit for the patient's symptoms. This is complicated by the problems outlined above (e.g. overlapping symptoms, confirmation bias) and can be critical in terms of patient care. Invalid diagnosis may mean the person is not provided with the best treatment options, so prolonging their recovery or even worsening their condition.

#### KEY TERMS

**anorexia nervosa (AN):** a persistent pattern of restrictive eating or other behaviours aimed at establishing or maintaining abnormally low body weight, typically associated with extreme fear of weight gain (WHO, 2019/2021)

**implicit bias:** a positive or negative mental attitude towards a person, thing, or group that a person holds at an unconscious level

One reason that a person's diagnosis may not be valid is that the practitioner has failed to understand the reasons why a person is behaving in a certain way. For example, a person who is losing weight due to restricted eating may be diagnosed with **anorexia nervosa**. However, the reason they are not eating may be linked to an obsessive fear of germs or the delusional belief that someone is trying to poison them. Understanding the reasons for their restricted food intake may lead to a different and more valid diagnosis. Such reasons are only likely to be shared if the patient and practitioners have a strong rapport, making it more likely that the patient will provide a full and detailed explanation of their symptoms.

#### LINK

On page 315 you will learn about the classic study by Rosenhan (1973). Practitioners demonstrated that it was possible to reliably diagnose schizophrenia however their diagnoses were invalid as the patients were mentally fit and well confederates (pseudopatients). The study revealed the difficulties of making a valid diagnosis using DSM-II. It also reveals that diagnoses may be reliable but this does not make them valid.

Rosenhan's study demonstrated that once a patient has been diagnosed, their behaviour is more likely to be pathologised or seen as a symptom of their disorder. This shows how a psychiatrist's diagnosis may be biased by previous information supplied in the patient's medical records. Likewise, other **implicit biases** relating to culture or gender may influence their decision making.

## KEY TERMS

**aetiological validity:** the extent to which a disorder has the same cause or causes in different people. Aetiological validity exists when the diagnosis reflects known causes, such as a family history, in a disorder that is known to have a genetic cause.

**concurrent validity:** the same diagnosis is reached using two or more different classification systems to assess the same patient at the same point in time

For example, the fact that more women are diagnosed with depression than men may mean that a woman will be more likely to receive this diagnosis than a man whether it fits her symptoms or not. Phares (1979) used the term 'reading-in syndrome' to refer to a type of cognitive bias whereby psychiatrists may interpret what a patient says or does in a way which 'fits' with their preconceptions based on their patient's physical appearance, accent, style of dress for example.

Other biases that may lead to invalid diagnoses include the primacy effect, in which greater emphasis is placed on information that the patient shares earlier in the interview compared with significant information that is shared later (Meehl, 1962). When making a diagnosis, practitioners are trained to eliminate disorders that are not a good fit for the patient and always question whether there could be other reasons for their symptoms. However, this approach can be problematic for patients who present symptoms of two or more disorders. Some disorders are frequently comorbid such as depression and anxiety.

A number of different methods can be employed to determine whether a diagnosis is valid (see Table 20.4). For example, a practitioner may use two different ways of making a diagnosis (e.g. DSM-5 and ICD-11) to see if there is agreement (**concurrent validity**). Also, they may give a diagnosis and then wait to see whether the patient's prognosis is as expected (predictive validity). If it is, this would suggest that the correct diagnosis was made. Finally, if two patients are given the same diagnosis you would expect that it resulted from the same set of cases or risk factors. When this is not the case, it questions the **aetiological validity**.

TABLE 20.4: ESTABLISHING THE VALIDITY OF DIAGNOSIS

Type of validity	Sub-types of validity	Description	Example
Criterion	Concurrent	A patient receives the same diagnosis from two or more different diagnostic tools or classifications systems.	A diagnosis is initially made using the DSM and receives the same diagnosis when reassessed using the ICD.
	Predictive	A diagnosis made at one point in time is helpful in determining the likelihood of future behaviour/well-being based on the disorder's typical prognosis. This can include response to certain drugs or other treatments, likelihood of relapse.	A patient diagnosed with schizophrenia responds well to typical antipsychotic medication; hallucinations and delusions are much reduced, however they have occasionally relapsed especially when under a high level of stress.
	Aetiological	A patient's records suggest that they have many of the known risk factors for the disorder with which they are diagnosed.	Schizophrenia is known to have a genetic component and a person diagnosed with this disorder has a family history of psychotic symptoms, including in relatives that the person has never met.

Additionally, many disorders are comorbid with each other, making a valid and reliable diagnosis difficult; for example, the majority of those suffering with depression also have anxiety disorders.

A strength of the DSM-IV-TR was that it tried to avoid 'false positives' (over-diagnosis) of major depressive disorder in people who have experienced a bereavement in the past two months. Practitioners were advised that typical grief reactions may appear similar to the symptoms of

**KEY TERMS****bereavement exclusion:**

DSM-IV stated that people who have been bereaved in the past two months should not be diagnosed with depression in an effort to avoid pathologising normal grief

**premenstrual dysphoric disorder (PDD):** a mood disorder characterised by

episodes of depression and/or anxiety in the week before monthly menstruation which improve following menstruation onset; symptoms are severe enough to impair daily functioning

**social control:** regulating and/or changing the behaviour of groups of people in order to comply with social norms

depression and therefore care should be taken to avoid diagnosing people whose symptoms would be likely to reduce gradually over time without treatment. This is important as the DSM has been accused of pathologising the normal range of human emotion and this was an attempt to avoid that.

However, in the DSM-5 the **bereavement exclusion** was removed. Many argued that it set a culturally-biased time frame on 'normal grief' and may stigmatise people who are still displaying symptoms after the two month cut-off point. However, this decision has been fiercely debated as under the DSM-5 people who have experienced bereavements may be labelled as depressed even when the label has low predictive and aetiological validity. This is a specific example of a general problem with the DSM-5 in which decisions are believed to have been made based on limited and/or flawed research evidence (Lynch, 2018).

Although the validity of classification systems is hotly debated, research evidence from a study conducted in Finland demonstrates the concurrent validity of the diagnosis of schizophrenia. Johanna Pihlajamaa and colleagues (2008) obtained the case notes of 806 people listed in the Finnish Hospital Discharge Register. All had received at least one diagnosis of schizophrenia between 1951 and 1960. An electronic diagnosis programme called OPCRIT was used to compare their notes with the criteria for DSM-III-R, DSM-IV, ICD-10. Generally there was good agreement between the diagnoses made by the different classification systems, suggesting these diagnoses were valid. Research such as this is useful to other researchers looking for large secondary data sets to use in their own research as it helps to verify that the patients actually had schizophrenia.

A strength of using OPCRIT is that the diagnosis is not affected by personal biases or prejudice as the patient is not present. However these use of secondary data detracts from the validity, as the person who recorded this data may have been selective in what was recorded and what was ignored – meaning there is still an element of subjectivity in the way that concurrent validity was established.

**LINK**

You will learn more about the diagnosis of schizophrenia, unipolar depression and anorexia nervosa on pages 275–276, 287–288 and 302–303. Comments have been made about the reliability and validity of each of these diagnoses on these pages and you may wish to use this information when answering exam questions on debates in diagnosis.

Hysteria symptoms is a historical term used to refer to bodily symptoms which have no physical cause such as blindness, paralysis, seizures combined with emotional outbursts. The term comes from the Greek word hysteria meaning uterus (womb), demonstrating the previously mistaken belief that such symptoms were only shown by women.

**WIDER ISSUES AND DEBATES****An understanding of how psychology has developed over time**

Each new version of the DSM has paid increasing attention to clearly operationalising each disorder. This has helped to increase inter-rater reliability through reducing subjectivity in the diagnostic process. However, this is at the cost of validity. Ex-director of the American National Institute of Mental Health's (NIMH), Thomas Insel, described the DSM-5 as having '0 per cent validity' and insiders state that scientific evidence was ignored and distorted (Lynch, 2018). New disorders such as **premenstrual dysphoric disorder** suggest that instead of becoming more progressive, psychiatry may be returning to a time when the normal everyday experiences of women, especially in relation to their reproductive health, are pathologised, potentially leading to unnecessary treatments and stigmatisation.

You may like to carry out some research into hysteria symptoms and the ways in which psychiatric labels have been applied to women as a means of **social control**, especially when speaking out about abuse and exploitation.

Using the DSM-5 to diagnose research participants could mean that scientific knowledge is compromised. This suggests that although some areas of psychological knowledge are developing over time, it could be argued that in some parts of the world, understanding of mental disorders is not advancing at the same rate as other areas of psychology.

**SKILLS**

ANALYSIS, ASSERTIVE  
COMMUNICATION, TEAMWORK

**ACTIVITY 2**

Imagine that you are working on a research team investigating the prevalence of mental health disorders in the country where you live. The chief scientist has asked you and a small team of colleagues to decide which classification system you will use to diagnose patients in your study. Working in a small group, create a table to compare the ICD-10, ICD-11, DSM-IV and DSM-5 in terms of their validity, reliability, credibility, generalisability, objectivity/subjectivity.

You may find it useful to research the two systems further. You could explore the National Institute of Mental Health's decision not to fund research using the DSM-5 for example.

Rate each system from 1 to 7: e.g. 1 = high subjective, 7 = highly objective; 1 = highly unreliable, 7 = highly reliable. This should help you to come to a final judgement regarding which system you will recommend. Remember, however, the chief scientist has strong opinions so you will need to be able to argue your case very convincingly.

**CHECKPOINT**

1. What did Hippocrates mean by 'humours' and how did he think these were related to mental disorders?
2. Where and when were the first mental hospital or asylums established?
3. How is the normal distribution curve used to distinguish between abnormal and normal?
4. Why might people argue that Rosenhan and Seligman's (1989) criteria for defining failure to function adequately are subjective?
5. Why might practitioners have difficulty using ICD-11?
6. Why was the multiaxial system removed from DSM-5?
7. What is meant by cross-cutting symptoms in the DSM-5?
8. Who might perform a cultural formulation interview and why might this be done?
9. What is *taijin kyofusho* and how is this linked to changes between DSM-IV and DSM-5?
10. What is the difference between predictive and concurrent validity?

**SKILLS**

CRITICAL THINKING, ANALYSIS,  
REASONING

**EXAM PRACTICE**

1. Outline one way a psychologist might investigate the reliability of diagnosis. (2 marks)
2. Explain one weakness of the DSM-5 with reference to validity. (2 marks)
3. Harmony is 7 years old. She recently completed an intelligence test and scored 173. The mean for intelligence is 100 and the standard deviation is 15. She is often very talkative in class and constantly asks her teacher questions. The teacher finds this very stressful as the rest of the class often become disruptive while Harmony is talking to her. She has asked for Harmony to be moved to a different class. Justify whether Harmony's behaviour is abnormal, with reference to one or more definitions of abnormality. (4 marks)
4. Zephyr has recently been diagnosed with schizophrenia using the DSM-5. His mother is not convinced that this diagnosis is correct. She is concerned that if he starts taking antipsychotics his condition will not get any better. She says that her sister works with people with schizophrenia and none of them have symptoms like Zephyr. To what extent is diagnosis of mental disorders valid and/or reliable? You must refer to Zephyr and his mother in your answer. (16 marks)

# CHAPTER 21 SCHIZOPHRENIA

## LEARNING OBJECTIVES

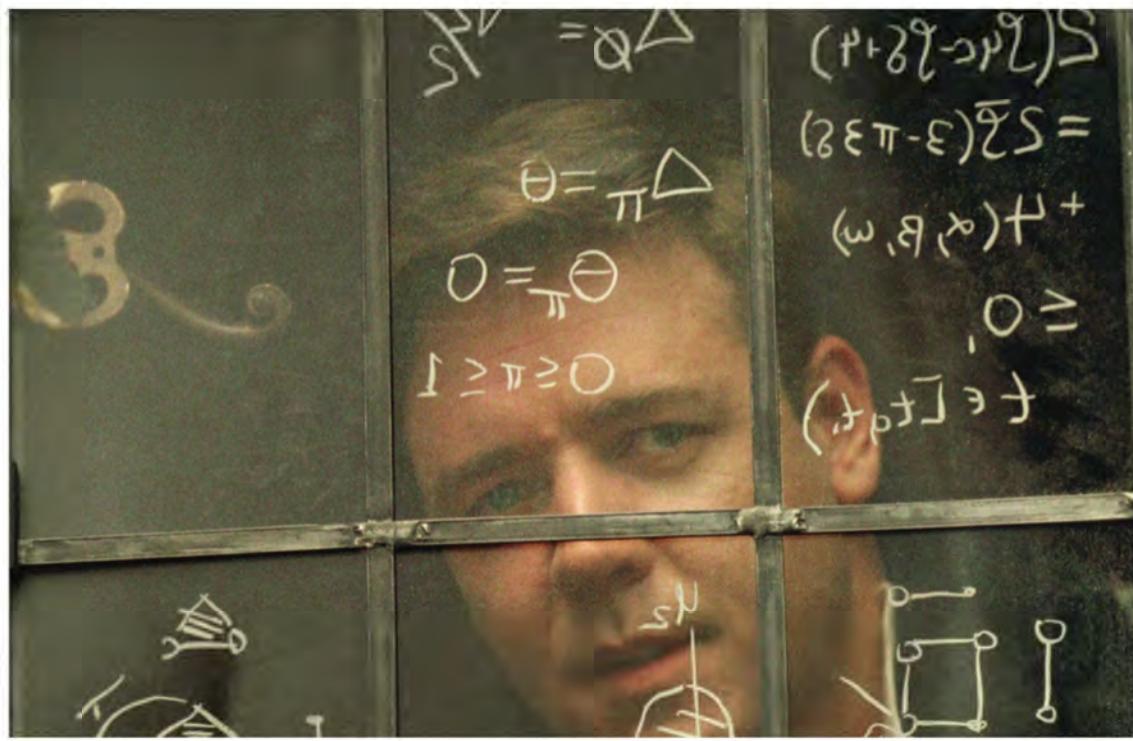
By the end of this chapter you should be able to describe and evaluate:

- symptoms and features of schizophrenia, including thought insertion, hallucinations, delusions, disordered thinking
- two biological theories/explanations of schizophrenia including the function of neurotransmitters and the role of genes
- two treatments/therapies for schizophrenia: drug therapy and family therapy.

## GETTING STARTED

How much do you already know about schizophrenia? Even if you know very little at all, you are probably familiar with some myths and stereotypes, such as 'people with schizophrenia have multiple personalities' or 'people with schizophrenia are dangerous'. Work in pairs and write down everything you know or think you know about this disorder. If you can, write down how you know this; for example, is this first-hand knowledge of someone diagnosed with the condition or from a film or television show or documentary? Swap notes with another pair and colour code (or use different patterns) to identify points which you think are true or false. Now get together as a group of four to discuss your pre-existing knowledge of this topic. Make a list of three things you would like to learn about this disorder.

*A Beautiful Mind* (2002) explores the true story of Nobel Prize winner John Nash who was diagnosed with schizophrenia, but knowledge gained from movies and television shows can sometimes lead to myths and misunderstandings when it comes to mental health



## SYMPTOMS

Schizophrenia is a psychotic disorder which affects cognition, emotions and behaviour. Psychotic disorders are characterised by difficulty in distinguishing between real and imagined events. This means people with these disorders sometimes lack insight (awareness) or knowledge that their behaviour and experience of the world is different from that of other people.

**KEY TERMS****disorganised/disordered thinking/speech:**

the absence of clear connections between thoughts/ideas which makes language use difficult to follow/understand

**experiences of passivity, influence or control:**

strong subjective experiences of detachment from inner thoughts and feelings, leading to the false belief that thoughts have been implanted by external forces

**mania:** an episode of at least one week characterised by intense elevated mood, energy and activity including impulsivity, irritability, racing thoughts and decreased need for sleep

**positive symptom:** the presence of abnormal ways of thinking or behaving, e.g. hallucinations

**schizoaffective disorder:** a disorder characterised by both psychotic symptoms and mood disorder symptoms, such as depressed mood or mania; symptoms may be simultaneous or alternating

**thought insertion:** the belief that thoughts have not been generated by one's own mind but implanted by external forces

ICD-11 states that a diagnosis of schizophrenia will only be made if an individual has experienced at least two of the symptoms listed below. At least one of these must be a **positive symptom**. Symptoms must be present for at least one month. In cases where the severity, frequency or duration of symptoms is insufficient for a schizophrenia diagnosis, the person may receive a diagnosis such as schizotypal disorder. A diagnosis is also only made if the practitioner is able to eliminate other possible causes of the person's symptoms such as a brain tumour or substance use. Also, the practitioner must check whether the patient has any additional symptoms. For example, if mood-related symptoms such as episodes of **mania** or depression are present then a diagnosis of **schizoaffective disorder** may be more appropriate. Many people with schizophrenia also develop depressive symptoms over time. It can therefore be very difficult for practitioners to establish which symptoms came first and which diagnoses may be most appropriate.

## POSITIVE SYMPTOMS

In this context, positive refers to the presence of abnormal ways of thinking or behaving which are in addition to normal functioning.

### Delusions

Delusions are fixed beliefs that do not correspond with those of the majority of other people within the person's community. Even when confronted with disconfirming evidence, these beliefs may be strongly upheld. People may believe that they have remarkable qualities such as being famous or having special powers (grandiose delusions), that others wish to harm them (persecutory delusions) or that environmental or social stimuli have special, personal significance or meaning (referential delusions).

### Thought insertion

**Thought insertion** is part of a collection of symptoms referred to in the ICD-11 as **experiences of passivity, influence or control**. This is a subjective experience of detachment from our inner thoughts and feelings, which is so strong that the person develops the delusion that their thoughts have been implanted by external forces, such as aliens or the government. This may also be accompanied by feeling that thoughts can be removed from their mind (thought withdrawal) or transmitted to others (thought broadcasting).

### Hallucinations

The individual may have sensory experiences that are generated in the absence of any external stimulation, for example seeing or hearing things that cannot be perceived by others. Auditory hallucinations are common, e.g. hearing voices. However, the experience of who the voices belong to, what they say and how they say it seems to be affected by personal, social and cultural factors. Visual hallucinations can range from distortions of colour and movement perception to literally seeing things which are not present. Other sensory hallucinations are less common, e.g. somatosensory (touch) or olfactory (smell).

### Disordered thinking

**Disordered thinking** (sometimes referred to as **disorganized**) is typically diagnosed by observing how the person uses language to communicate their thoughts. Ideas may be only loosely connected and difficult to follow. This may be due to derailment in which the person changes topic frequently often to irrelevant topics and without warning. In severe cases, their language may be completely incomprehensible. The metaphor of a 'word salad' is used to describe communication in which there is no apparent connection between the person's words and ideas.

**SKILLS**

INTERPRETATION, SELF-DIRECTION, COMMUNICATION

**KEY TERMS**

**catatonia:** disruption to normal motor behaviour/movement; may include adopting strange postures, becoming rigid and immobile

**disorganised behaviour:** inconsistent, unpredictable behaviour which may appear silly, purposeless or not suited to the occasion or social context

**flat/blunted affect:** reduction in or total absence of emotional expression; the person may show neutral/limited facial expression and flat tone of voice; failure to respond emotionally e.g. laugh/cry

**negative (type 2) symptoms:** symptoms that mean the person has 'lost' an element of normal functioning

**ACTIVITY 1**

The ICD-11 lists **disorganised behaviour** and/or **catatonia** as potential symptoms of schizophrenia. Carry out some further research to find out more about these symptoms as well as cognitive issues in schizophrenia, such as poor working memory.

Imagine you are a psychiatrist. Write up your observations about a visit to meet a patient with schizophrenia whose behaviour is disorganized or catatonic. Remember this would not be enough to make a diagnosis – the person must also exhibit at least one of the positive symptoms listed above to gain an ICD-11 diagnosis. Which will you choose for your imaginary patient?

Before writing your diary entry, go to page 345 to remind yourself of the Health and Care Professions Council (HCPC) Guidelines for clinical practitioners. This should ensure that you write in a way which respects your imaginary patient's rights and dignity.

**LINK**

Refresh your understanding of ways of establishing reliability and validity of diagnosis (see page 270).

**NEGATIVE SYMPTOMS**

**Negative (type 2) symptoms** refer to the absence of normal behaviours. For example, the person may experience **flat/blunted affect**. This means that their emotional reactions are weaker than normal. Facial expressions and other non-verbal communication may remain the same regardless of the topic of conversation, for example. The person may also find it difficult to carry out goal-directed behaviour. This is not as simple as a lack of motivation. The person may want to do certain things, but not have the cognitive ability to plan and organise the necessary behaviours to achieve these goals. Other negative symptoms include difficulties with speech, meaning reduced communication and social withdrawal.

**FEATURES OF SCHIZOPHRENIA**

When we talk about features of a disorder, we are referring to any factual information other than the symptoms used to make a diagnosis. In this section we consider three important features: prevalence, onset and prognosis.

**PREVALENCE AND ONSET**

The life-time prevalence of schizophrenia is between 0.3 and 0.7 per cent (APA, 2013, page 102). However, it is more common in some social groups and geographical locations than others. Age of onset is between early adulthood and mid-thirties. Men tend to be diagnosed earlier than women, typically in their early to mid-twenties, whereas women tend to be diagnosed slightly later in their late twenties. Late onset, e.g. over the age of 40 is more common in women. 'Very early onset' is uncommon. Schizophrenia is rarely diagnosed in young people aged under 13 because of symptom overlap with autism and other disorders common in childhood and adolescence (Aneja et al., 2018).

**LINK**

See page 264 for a reminder of what is meant by prognosis and prevalence.

**PROGNOSIS**

Prognosis differs widely and can be unpredictable. Initially, symptoms are attenuated (weaker) and may not justify a diagnosis. For example, the person may have strange ideas but not strongly held convictions/delusions. Earlier onset is associated with worse prognosis, e.g.

**KEY TERMS**

**mesocortical pathway:** a dopamine pathway associated with motivation and emotion

**mesolimbic pathway:** a dopamine pathway associated with reward and pleasure, and often linked with addictive behaviours

**treatment-resistant:** a person whose symptoms do not improve after two or more trials of appropriate medication

**up-regulation:** homeostatic mechanism where the brain produces more of something in response to a depletion; a dopamine pathway associated with reward and pleasure, and often linked with addictive behaviours

symptoms become more severe over time and lead to greater dysfunction. For this reason, men often have a worse prognosis than women, including more negative symptoms. Many remain chronically ill and are **treatment-resistant**.

When disorders have highly variable prognosis, predictive validity is reduced. This is because knowing a person's diagnosis does not necessarily help with making accurate predictions about their future well-being.

**LINK**

Refresh your understanding of predictive validity on page 253.

**BIOLOGICAL EXPLANATIONS OF SCHIZOPHRENIA**

Biological explanations support the nature side of the nature versus nurture debate. They focus on the role of genetics, hormones, neurotransmitters and evolution. You need to learn two biological explanations. The first will focus on the role of neurotransmitters.

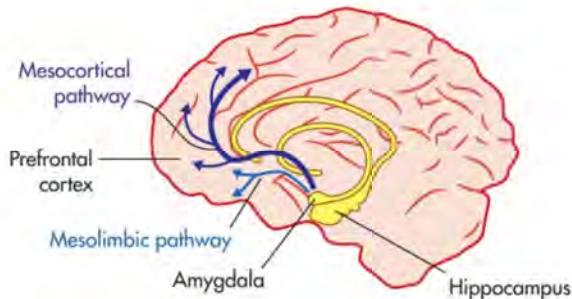
**THE FUNCTION OF NEUROTRANSMITTERS AS A THEORY/EXPLANATION**

High or low levels of several neurotransmitters have been suggested as causes of schizophrenia including dopamine, serotonin and glutamate.

**The dopamine hypothesis**

Researchers first began making links between schizophrenia and dopamine in the early 1960s. For example, Jacques van Rossum (1967) proposed that overstimulation of dopamine receptors may be the cause of schizophrenic symptoms. Others have suggested that this excess may be due to an excess of dopamine being released from the terminal buttons into the synapse or an excess or supersensitivity of D2 dopamine receptors. D2 dopamine receptors are postsynaptic receptors which are more likely to bind to dopamine than other receptors. (Madras, 2013).

Other possible explanations of excess dopamine include low levels of beta-hydroxylase, the enzyme which breaks down dopamine post-transmission. If the dopamine is not removed from the synapse it increases its availability for binding to postsynaptic receptors. Over time, research started to reveal that positive symptoms may result from greater than average activity in the neurones in the **mesolimbic pathway** which use dopamine as a neurotransmitter. Whereas lower than average activity in the **mesocortical pathway** and prefrontal cortex may be responsible for the negative and cognitive symptoms (Davis et al., 1991).



► Figure 21.1 Dopamine pathways

It is also now believed that hypodopaminergic in one area of the brain may trigger an increase in dopaminergic activity in other areas due to **up-regulation** of receptors. This means more receptors develop on the postsynaptic cells to increase the probability of dopamine binding. More recent theories highlight the complex interactions between neurotransmitters, including serotonin, glutamate and GABA.

**KEY TERM**

**amphetamine:** a drug that stimulates the central nervous system; its effects include increased activity and energy, as well as appetite suppression and difficulty in sleeping

**Evaluation**

A strength of the dopamine hypothesis is that it is supported by research evidence. For example, Jeffrey Lieberman and colleagues (1987) state that about 75 per cent of patients with schizophrenia show new symptoms or an increase in psychosis after administration of dopamine agonists such as **amphetamine** which amplify the effects of dopamine on the presynaptic cell.

This suggests that naturally-occurring individual differences in dopamine signalling may be a cause of schizophrenia in some people. This said, research suggests that not all dopamine agonists trigger schizophrenic symptoms. People with schizophrenia who were given apomorphine to increase dopamine levels showed no significant worsening of symptoms and this drug also failed to trigger schizophrenic-like symptoms in healthy controls (Dépatie and Lal, 2001). This is hard to explain if schizophrenia is caused by an excess of dopamine.

As increases in dopamine do not seem sufficient to cause schizophrenia, it is possible that differences in dopamine receptors provide a better biological explanation. Post-mortem studies support this possibility. Brains from people with schizophrenia show higher density of D2 dopamine receptors in the cerebral cortex and other regions when compared with brains from healthy matched controls (Owen et al., 1978; Seeman, 2013). This suggests that people who develop schizophrenia may be more sensitive to dopamine than those who do not. However, it is unclear whether differences in dopamine sensitivity are a cause of schizophrenia or an effect of having the condition.

**SKILLS**

ADAPTIVE LEARNING, INITIATIVE,  
COMMUNICATION

**ACTIVITY 2**

Research has discovered that rats injected with amphetamine are more likely to display schizophrenic-like symptoms than control rats (Tenn et al., 2003). Imagine you have been asked to carry out a similar study. Write out your aim and a null hypothesis. Next, write out a step-by-step procedure including your experimental design and how you operationalise your independent and dependent variables. What controls will you need to consider to improve internal validity? For example, how will you control for the effects of stress, which is a known risk factor for schizophrenia? Think about how you might analyse your data using descriptive and inferential statistics.

**WIDER ISSUES AND DEBATES****Reductionism versus holism**

The dopamine hypothesis is reductionist as it explains a highly complex disorder using the smallest possible 'unit' of explanation – an imbalance of a single neurotransmitter. This ignores the complex interrelationship between neurotransmitter levels and other biological, psychological and social factors that may influence whether an individual develops the disorder. For example, Wim Veling (1999) also points to the important role of social factors and stress as triggers for the development of schizophrenia. He studied schizophrenia prevalence in immigrant populations in Europe and found that the fewer people there are from a certain minority group within a population, the higher the prevalence of schizophrenia in that group. This was particularly true for groups facing high levels of racial discrimination from the majority group. The important factor here is minority status rather than schizophrenia being more common in any cultural group. Studies such as this show that biological explanations alone cannot explain cross-cultural differences in prevalence rates and a more holistic approach is required to fully understand research in this area.

**KEY TERMS**

**concordance rate:** the probability that if one twin/family member has a certain characteristic (such as schizophrenia) then the other twin/another family member will also have it

***de novo mutations:***

genetic alterations that occur spontaneously in an individual and are not inherited from parents

**genome-wide association studies (GWAS):** a research method in which the whole genome of people with and without a certain disorder are compared to identify the frequency of certain alleles which may increase the risk of developing the condition of interest

**polygenic:** traits or conditions that are influenced by multiple genes each of which fractionally increases the risk of developing a certain phenotype

**ANOTHER BIOLOGICAL EXPLANATION: THE ROLE OF GENETICS**

Research suggests that schizophrenia is heritable (Gottesman, 1991). This means that biological relatives of people with schizophrenia are at greater risk of developing the disorder than those in the general population. The more shared DNA the relatives have, the greater the risk. For example, if the relative with the disorder is an uncle or aunt the chance of developing the disorder is 2 to 6 per cent. However, if the relative is a parent or sibling the risk increases to between 6 and 17 per cent. This is because first-degree relatives share an average of 50 per cent of their DNA compared with 25 per cent in second-degree relatives.

The highest **concordance rate** for schizophrenia is seen in monozygotic (MZ) twins who share 100 per cent of their DNA. For example, Irving Gottesman (1991) found a rate of 48 per cent for MZs compared with 17 per cent for dizygotic twins. As both types of twins in this study were raised together, this suggests the difference in concordance is due to the greater proportion of shared DNA in MZs than DZs. However, such studies also support the role of environmental (epigenetic) factors in triggering gene expression; otherwise one would expect a concordance rate of 100 per cent for MZ twins.

**LINK**

Refresh your understanding of twin studies on page 197 of Student Book 1.

**Genome-wide association studies (GWAS)** have also been used to identify potential candidate genes which may increase the probability of developing schizophrenia. These studies examine whether any specific alleles are more common in people with schizophrenia compared with healthy controls. Such studies have revealed that there are probably over a thousand gene variants that each fractionally increase a person's risk of being diagnosed with schizophrenia (Smeland et al., 2020). As there are so many genes involved in the development of this disorder, schizophrenia is referred to as **polygenic**. These genes typically code for proteins associated with key neurotransmitters. One example is the DISC1 gene which codes for GABA receptors. Abnormalities of this gene could reduce GABA signalling, allowing other neurotransmitters such as glutamate and dopamine to become imbalanced.

Schizophrenia risk can also be increased by ***de novo mutations*** occurring during cell division. This explains the development of schizophrenia in cases where there is no family history of the disorder. An example is DiGeorge syndrome in which 30 to 40 genes on chromosome 22 are deleted. One in four people with this condition develop schizophrenia. This may be due to deletion of the COMT gene which codes for an enzyme which breaks down dopamine.

**EVALUATION**

A weakness of family studies such as Gottesman (1991) is that they ignore the role of environmental factors. For example, schizophrenia may be a response to stressors affecting a whole household, such as discrimination or bereavement, rather than the result of shared genes. Likewise, schizophrenic symptoms such as avolition and alogia may be learned through modelling. However, these alternative explanations do not explain the results of MZ/DZ twin studies which provide more compelling evidence for the role of genetic factors. This said, twin studies also have weaknesses. For example, MZ twins may have a more similar environment to each other than DZ twins, because they look identical and are more likely to be treated similarly by other people. This means that environmental factors become a confounding variable, making it impossible to disentangle the role of nature and nurture in contributing to schizophrenia.

The fact that DZ twins have a higher concordance rate (17 per cent) than normal siblings (9 per cent) and half-siblings (6 per cent) also points to the role of environmental factors, since all three of these groups share an average of 50 per cent of their DNA. Some researchers have suggested that environmental factors affecting twins such as identity confusion (Joseph, 2004) and greater probability of birth complication may also mean that prevalence rates for schizophrenia are not generalisable to other groups.

**KEY TERMS**

**antagonists:** drugs that reduce or weaken the effects of neurotransmitters on the postsynaptic cells by binding to and blocking receptors sites without activating them

**epigenetic effects:** changes in gene expression that occur when chemical tags are added to the DNA due to environmental factors or lifestyles choices; the tags make the genes more or less likely to be 'switched on' (expressed) or 'off' (silenced)

**family therapy:** group sessions in which all family members of a person with a mental disorder meet with a therapist to receive psychoeducation and to share feelings and thoughts about the situations they are each facing

**treatment aetiology fallacy:** the mistaken belief that if a treatment is effective, the explanation upon which the treatment is based must provide a valid explanation of the disorder

Support for the role of DISC1 in the development of schizophrenia comes from a study by Xiaoqian Fu and colleagues (2020). They found higher expression of this gene in blood samples of 32 people with schizophrenia compared with 48 healthy controls. This is an important study which suggests that GABA agonists may be helpful in treating schizophrenia. This is because DISC1 impairs receptors on GABA interneurons, meaning glutamate is not regulated effectively.

There is also research evidence to support the role of the Val allele of the COMT gene as a possible cause of cognitive symptoms in schizophrenia. Michael Egan and colleagues (2001) studied the role of two alleles of the COMT gene, called Val and Met. People carrying one or more copies of the Val allele are more likely to develop schizophrenia than people carrying the Met allele. fMRI shows that carriers of the Val allele also have reduced activity in the prefrontal cortex while conducting cognitive tasks, suggesting that this allele may play a role in the development of cognitive symptoms of schizophrenia such as disordered thinking.

**WIDER ISSUES AND DEBATES****The role of both nature and nurture**

Biological explanations of schizophrenia focus on the nature side of the debate and ignore external influences or nurture. However, there are several psychological explanations of schizophrenia including some outdated theories focusing on the role of the family, specifically mothers. Other explanations focus on risks associated with living in urban, and especially, inner city areas. Air, noise and light pollution, immersion in a built environment versus a natural environment and complex social interactions, which can cause people to feel excluded or inferior, have all been suggested as possible stressors.

Lilian Abrahamyan Empson and colleagues (2018) suggest that although certain genes may make some people more vulnerable, environmental factors are necessary for schizophrenia to develop. This is referred to as the diathesis-stress model, or more recently, the two-hit hypothesis. As Empson et al. state, 'human beings are in constant interaction with an environment that shapes the brain' (Empson et al., 2018, page 5). These stressors may lead to **epigenetic effects** in which protective genes may be silenced or overexpression of genes associated with increased risk. The development of schizophrenia therefore stems from a complex interaction of both nature and nurture.

**THERAPY FOR SCHIZOPHRENIA**

In this section you will learn about drug therapy, which takes a biological approach to treatment, and family therapy, which takes a psychological approach.

**DRUG THERAPY**

If symptoms of schizophrenia are caused by chemical imbalances in the brain, it should be possible to reduce the symptoms through restoring the balance using medication.

**THINKING LIKE A PSYCHOLOGIST**

In the previous section you learned that positive symptoms may be caused by hyperdopaminergic activity in the mesolimbic pathways. Imagine that you are designing a prescription drug to reduce this activity, how would you do it? Now imagine your new medication was highly effective, what would this tell us about the dopamine hypothesis of schizophrenia? Now think about this; imagine you have a headache. You take paracetamol and feel much better. Does this mean your headache was caused by a lack of paracetamol? Of course not! This is known as the **treatment aetiology fallacy** – be careful about assuming that because dopamine **antagonists** reduce schizophrenia symptoms that this means excess dopamine is the ultimate cause of the disorder.

## KEY TERMS

**atypical (second generation) antipsychotics:**

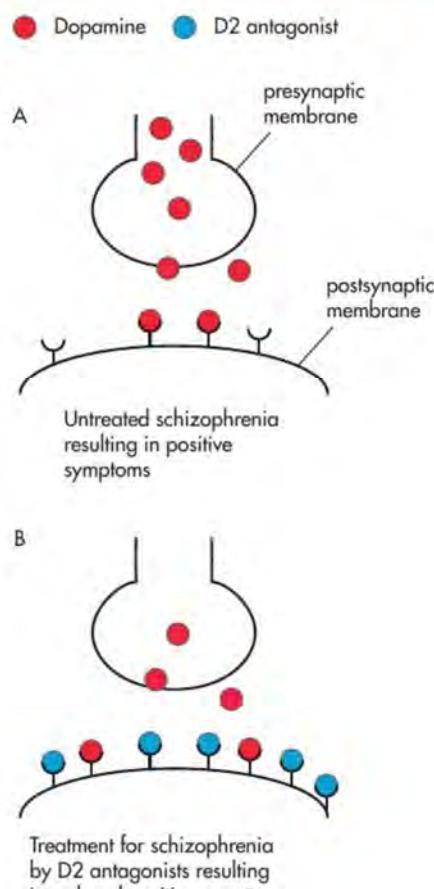
medications which block dopamine and serotonin receptors, reduce positive and negative symptoms of schizophrenia and have fewer side-effects (especially tardive dyskinesia) than typical antipsychotics

**typical (or first generation) antipsychotic:** drugs which bind to dopamine receptors without activating them, used to treat schizophrenia

In many countries, patients diagnosed with schizophrenia are prescribed medications such as chlorpromazine. The antipsychotic effects of this drug were first discovered in the 1950s, when it was originally used as a tranquilliser. It became known as a **typical (or first generation) antipsychotic**. These drugs are dopamine antagonists, meaning they bind to dopamine receptors on the postsynaptic cell (see Figure 21.2). This reduces signalling in neural pathways that use dopamine to communicate. This drug and others like it, such as haloperidol, were effective in reducing positive symptoms. However, patients developed unpleasant side-effects (see below). Also the drugs only worked for about 60 per cent of patients and many of these people continued to experience negative symptoms.

These problems led to the development of **atypical (second generation) antipsychotics** in the 1990s. Examples include clozapine and risperidone. These drugs block dopamine receptors (e.g. D2 and D4) and serotonin receptors. They are effective in treating both positive and negative symptoms, and clozapine can be beneficial for those who were previously treatment-resistant (Brar et al., 1997). Interestingly, the drugs also seem to bind to the D2 receptors more loosely than typical antipsychotic drugs such as chlorpromazine and detach from the receptors more rapidly. This may explain why they are more effective but this is not well understood (Seeman, 2021).

As atypical antipsychotic drugs have fewer side-effects, drugs like risperidone are often prescribed first. If the drug does not work, the doctor may try a typical antipsychotic like haloperidol. Clozapine is usually only tried if other drugs do not work, owing to some dangerous side-effects (see the Evaluation section below).



▲ Figure 21.2 The action of D2 antagonist drugs in reducing positive symptoms of schizophrenia by blocking D2 receptors

## EXAM TIP

Even when answering 2-mark questions, you need to push yourself to always elaborate effectively. Ask yourself 'so what?' at the end of each sentence and try to add a little bit more. For example, if asked about drug treatments as a treatment for schizophrenia you could say that they 'block dopamine receptors' (so what?) 'and this stops dopamine from binding with the receptors' (so what?), 'reducing communication between dopamine neurons in areas such as the mesolimbic pathways' (so what) 'and this means that the person experiences fewer positive symptoms of schizophrenia, such as hallucinations and delusion'.

## EVALUATION

A strength of antipsychotics is that they are a practical, flexible and low-effort treatment option. People who are unable to remember to take daily tablets or syrups, can use patches stuck to the skin containing medicated creams or gels (Abruzzo et al., 2019). This means medication can be practical for many different types of patient including those with cognitive impairment or poor self-care skills.

This said, these drugs can have many unpleasant side-effects meaning that some people may stop taking them, potentially leading to serious consequences (Lieberman et al., 2005). Issues include dry mouth, dizziness, drowsiness, nausea and blurred vision. Side-effects can severely limit quality of life in already vulnerable people. Also, the drugs can lead to some very serious medical issues that can be fatal. For example, weight gain can be so severe as to cause diabetes. This said, clozapine is often tolerated well and performs well in comparison with other typical and atypical antipsychotics (McEvoy et al., 2006).

Despite the side-effects these medications are supported by robust research evidence. For example, Ying Jiao Zhao and colleagues (2016) found that 94 per cent of antipsychotics were more likely to prevent relapse than placebos. This is compelling evidence as the total sample size was over 10,000 and the study was a meta-analysis of 56 randomised control trials. This suggests that the findings should be both generalisable and valid. However, meta-analyses rely on secondary data so the researchers must trust that the participants have received a valid diagnosis. Since the diagnostic process can be hampered by overlapping symptoms and comorbid disorders, the results of large studies such as this may be questionable. Also, multiple researchers and practitioners would have been involved in the initial diagnoses of the participants using differing classifications systems.

Although anti-psychotic drugs can bring relief to many people, Krishna Patel and colleagues (2014) explain that 30 to 70 per cent do not improve and, of those who do, 60 to 80 per cent relapse if they discontinue treatment. Another problem is that treatment gains typically reduce after five years and drugs are generally only effective if the disorder is diagnosed relatively early.

#### EXAM TIP

When evaluating treatment/therapies, ask yourself is 'Every Problem Erased'? Use this mnemonic to help you remember three key themes to structure your discussion:

- Effectiveness, e.g. what are the relapse and remission rates?
- Practical issues; e.g. how much time, effort and/or money will it cost to deliver? Are there any side-effects that would limit compliance?
- Ethics issue, e.g. how involved is the patient in making decisions about their care?

Incorporate evidence and examples into each section to fully elaborate your points. Try to give strengths and weaknesses for each bullet point and remember, comparison with other treatment/therapies will help you to explain your points.

#### FAMILY THERAPY

Not every person with schizophrenia has family members (or friends) available to support them. If they do, family therapy can help them to work together to support each other. The symptoms of schizophrenia can be frightening and distressing for the patient but also extremely challenging for other people living in the same household and in the person's wider social support network. Working together can help to make the person with schizophrenia feel more supported, therefore reducing their stress and ultimately improving their prognosis. Family therapy reduces symptoms by reducing stress triggers; it does not target individual symptoms such as hallucinations or delusions. However, with increased family acceptance, such symptoms may become less troubling.

Family therapists support the whole family unit by strengthening their resilience and coping skills and providing information about the disorder



Family therapists work with the whole family in identifying and developing ways that they can support each other and reduce the risk of relapse for their relative with schizophrenia. Building strong working relationships with the professionals who are providing individual treatments and/or therapies for their relative is also a key objective. As stress is a well-established trigger for relapse, family therapists also aim to reduce stress within the family by supporting the development of coping strategies and improving communication, problem solving, crisis management and empathy. The National Institute for Health and Care Excellence (NICE) state that families should receive at least 10 planned sessions over the course of 3 to 12 months. Where possible sessions should include the whole family, including the person with schizophrenia.

#### KEY TERM

**psychoeducation:** provides individuals and families with information about well-being, mental health, coping strategies and treatment options; can empower people to manage challenges and make informed decisions

During group sessions, family members are encouraged to talk freely about their thoughts and feelings regarding their relative's diagnosis and symptoms. Patients are encouraged to explain their experiences, good and bad, as 'experts' on schizophrenia. As family members sometimes feel to blame for their relatives' symptoms, practitioners provide **psychoeducation** about the causes of the disorder. Understanding that schizophrenia is caused by chemical imbalances, for example, can reduce guilt and promote more positive relationships within the family.

Practitioners may also explain that people have limited control over their behaviour when they are experiencing a psychotic episode. This can help the family to reduce negative emotions such as anger and help them to develop greater empathy for their relative. This may be much easier if everyone feels supported. It can be easy for family members to feel resentful if they feel their own mental health is not being supported. Family therapists therefore focus on the whole family unit, everyone's feelings are acknowledged and shown empathy by the practitioner. Modelling this behaviour can encourage family members to do the same. The therapist may also help the individual and the family to feel that they are not defined by the schizophrenia diagnosis. Everyone will be encouraged to maintain a full range of activities and social roles as well as caring for their relative as and when necessary.

Family therapy is typically not offered on its own; it is usually part of a broader treatment plan that includes both biological and psychological approaches. Psychoeducation therefore also

includes information about any drugs that have been prescribed, e.g. how they work, expected side-effects and how these can be managed. Since taking medication can be a source of stress for the patients, this may be something that is discussed thoroughly during family therapy sessions.

Working in this way has been shown to reduce relapse, including hospital readmissions, through increasing compliance with drug treatments and reducing relapse triggers.

### THINKING LIKE A PSYCHOLOGIST

Refresh your memory for all of the symptoms of schizophrenia from pages 276–277. Now make a list about how you might think and feel if someone in your family was experiencing these symptoms. This should help you to think about the different issues that may be discussed during family therapy. Some of you may already have direct experience of living with a relative with this condition or you may have it yourself. Remember, talking to a teacher or health care professional is the first step to getting support for yourself or someone you care about.

### KEY TERMS

**non-compliance:** not following professional/medical advice, e.g. failing to take medication as directed

**treatment as usual (TAU):** standard treatments that are routinely offered to individuals with health problems, physical and/or mental; in research studies, TAU is often used as a control condition to establish a baseline to which experimental treatments and therapies can be compared

### EVALUATION

A recent meta-analysis by Miguel Camacho-Gomez and colleagues (2020) concluded that, when compared with **treatment as usual (TAU)**, family therapy is associated with greater relapse prevention, shorter hospitalisation when readmission does occur, less severe symptoms and better daily functioning. These findings were based on 1360 patient studies, carried out in eleven RCTs conducted in Europe, Asia and Australia. This suggests that family therapy is an effective treatment that works in culturally-diverse populations. Also, these effects appear to be durable as the average follow-up period was 24 months.

This said, ratings of symptom severity and functionality may have been affected by researcher bias as none of studies were double blind designs. This means researchers would have known which patients had received family therapy and may have rated their symptoms as less severe as they expected greater improvement. Also, the definition of relapse varied for each study, as did the classification systems used to diagnose the patients.

Despite these validity issues, the reliability of these findings is supported in a review by Kurt Hahlweg and Donald Baucom (2023). They state that in the first year following diagnosis, 50 per cent of patients receiving standard psychiatric care experience relapse compared with just 10 per cent for those receiving family therapy. After two years, the difference increases to 70 per cent and 20 per cent. However, at eight years post-diagnosis, the gap begins to close; relapse was common at 88 per cent for standard care and 67 per cent for those who had received family therapy. Improved outcomes could, therefore, result from ongoing family support.

One practical issue with family therapy is that not all family members may want to take part. Some may feel embarrassed or ashamed and not wish to talk about the difficulties they are facing with a professional, who may be perceived as judgemental or interfering. Cultural differences may mean accessing family therapy is less likely. This is because some families and communities prefer to group together to support and care for their relatives, perhaps with support from respected community members and/or religious leaders.

Tensions may be particularly high when family members disagree about the best way to support their relatives. Even if family members agree to attend sessions together, the expectation to talk freely about beliefs and feelings may be challenging – leading to **non-compliance**. This could be a source of stress which actually worsens the patient's symptoms rather than improving them. Also, it may be very difficult to get the whole family together in one place at the same time. Scheduling and transport difficulties and costs may make family therapy impractical for many families.

Unfortunately, despite recommendations supporting its use in many countries, family therapy is not always widely available. This is difficult to explain; effective strategies to reduce relapse also reduce the financial burden on the state of providing residential care.

### CHECKPOINT

1. What is the difference between hallucinations and delusions?
2. Can you name one positive and one negative symptom of schizophrenia?
3. What is the prevalence of schizophrenia?
4. Which gender tends to have the worst prognosis, men or women?
5. In which brain region is overactivity of neurones which use dopamine as neurotransmitters associated with positive symptoms of schizophrenia?
6. Can you name one candidate gene that is associated with increased risk of schizophrenia? How does this gene increase the risk?
7. What is the concordance rate for monozygotic versus dizygotic twins, if one twin has schizophrenia? What does this suggest about the role of both nature and nurture in this disorder?
8. Can you give two differences between typical and atypical antipsychotics? What about three?
9. State one condition associated with use of clozapine.
10. How might psychoeducation help families where one or more relatives have schizophrenia?

### SKILLS

CRITICAL THINKING, ANALYSIS,  
REASONING/ARGUMENTATION

### EXAM PRACTICE

1. Compare two treatments/therapies for schizophrenia. (6 marks)
2. One biological explanation of schizophrenia refers to the function of neurotransmitters. Explain two strengths of one other biological explanation of schizophrenia. (4 marks)
3. Zubair is carrying out research into Parkinson's disease. People with this disease have low levels of dopamine. One of the symptoms is tremors and involuntary movements. He treats his patient with a drug called L-Dopa which raises dopamine levels. Explain one way that Zubair's research could provide support for the role of neurotransmitters in schizophrenia. (2 marks)
4. Assess family therapy as a treatment for schizophrenia. (8 marks)

# CHAPTER 22 ONE OTHER MENTAL HEALTH DISORDER: UNIPOLAR DEPRESSION

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and/or evaluate:

- symptoms and features of unipolar depression
- one biological explanation of unipolar depression
- one non-biological explanation of unipolar depression
- drug therapy for unipolar depression
- cognitive behavioural therapy (CBT) for unipolar depression.

## GETTING STARTED

In this chapter you will learn about risk factors that make a person more likely to become depressed. For example, Aaron Beck suggests that children who have experienced negative experiences in early childhood are likely to develop negative schemas which put them at greater risk of becoming depressed in later life. But not all children who have experienced neglect and abuse become depressed.

- Can you think of any protective factors which might help a person to maintain positive mental health and well-being?
- Can you think of any factors which might make a person more vulnerable to poor mental health and well-being?

## KEY TERM

**bipolar disorder:** a person diagnosed with bipolar will have experienced one or more manic episodes but will also have experienced one or more depressive episodes

Both the ICD-11 and the DSM-5 class depression as a mood disorder. People with these disorders experience prolonged periods or 'episodes' of extremely high or low mood, as well as other physical, cognitive and behavioural symptoms. For example, if a person experiences an episode of low mood which lasts for at least two weeks, they may be diagnosed with 'single-episode depressive disorder'. Over time, they may experience remission; however, if the low mood returns they may be diagnosed with 'recurrent depressive disorder'.

Mood states may also be very high and this is referred to as mania. If a person experiences alternating episodes of mania and depression, they may be diagnosed with **bipolar disorder**. DSM-5 separates bipolar disorders into their own chapter, separate from depressive disorders. This is due to genetic evidence which shows similarities between people with bipolar and schizophrenia but not between people with depression and schizophrenia. ICD-11 has not made this distinction and bipolar disorder is part of the same chapter as other depressive disorders. The term 'unipolar depression' is, in fact, not used in either classification system. However, it is a helpful term in that it contrasts the idea that bipolar involves two mood states (high and low) whereas unipolar involves just one mood state (low).

## DEPRESSIVE DISORDERS (UNIPOLAR): SYMPTOMS

To receive a diagnosis of depression, the DSM-5 suggests that a person should experience:

- at least five symptoms
- for 'most of the day, nearly every day during a period lasting at least two weeks'.

One of these symptoms must be:

- depressed mood (e.g. self-reported feelings of sadness, emptiness and/or hopelessness or the person is observed to be tearful) or
- loss of interest or pleasure in almost all activities.

**KEY TERMS**

**hypersomnia:** sleeping more than usual

**hyposomnia:** sleeping less than usual

Other symptoms include:

- significant weight loss when not dieting or weight gain (e.g. more than 5 per cent body weight in a month); increase or decrease in appetite
- changes in sleep, including insomnia, **hypersomnia** or **hyposomnia**
- psychomotor agitation (restlessness or fidgeting) or retardation (slow movements and long periods of stillness) that can be observed by others
- fatigue or loss of energy
- feelings of worthlessness and/or excessive and inappropriate guilt
- poor concentration or indecisiveness.

The ICD-11 lists the same symptoms but does not specify the need to experience at least five of these. To receive a diagnosis, the depressive symptoms outlined above must cause significant distress or impairment to the person's life and must not be caused by substance use or another medical condition. The practitioner must also rule out any other disorder that might better explain the symptoms. For example, the practitioner must check that the person has not experienced any manic or near manic (hypomanic) episodes which might mean that a diagnosis of a bipolar disorder might be more appropriate.

**SKILLS**

EXECUTIVE FUNCTION,  
CONTINUOUS LEARNING,  
SELF-DIRECTION

**ACTIVITY 1**

Create a table of the symptoms of unipolar depression with four rows. Organise the symptoms into four categories: physical (bodily functions), behavioural (how the person acts/reacts), cognitive (how a person thinks) or emotional/affective (how a person feels).

**KEY TERM**

**specifiers:** additional descriptors that can be added to a main diagnosis to provide more information about the individual's condition; examples include sub-types of a specific disorder or severity (e.g. mild, moderate, severe)

Both the DSM-5 and the ICD-11 allow the practitioner to add **specifiers**, meaning useful additional information, e.g. the intensity of the depression, from mild to moderate or severe, whether or not the person is or has ever experienced any psychotic and/or anxiety symptoms and whether the depressive episodes follow a seasonal pattern, e.g. symptoms worsen when there are fewer daylight hours per day.

**EXAM TIP**

If you are asked to 'describe' a symptom of depression in the exam, remember to include detail. Pick a symptom that you are able to elaborate (e.g. psychomotor agitation), which is not immediately obvious in the name. Then, for your second mark, say more about the duration and intensity of the behaviour, thoughts or feelings which mean that they may be classified as a symptom.

**FEATURES OF UNIPOLAR DEPRESSION**

In this section you will learn about four features of unipolar depression: prevalence, onset, prognosis and risk factors.

**PREVALENCE**

In the United States, approximately 7 per cent of the population will have experienced depression during the previous 12 months. However, this figure is 3 times higher for people aged between 18 and 29 years than people aged 60 and over. It is also 1.5 to 3 times more common in women than men. Cross-cultural differences in prevalence may be linked to differences in the primary symptoms and the way depression is diagnosed. For example,

**KEY TERMS****adverse childhood experiences (ACEs):**

potentially traumatic events that occur during infancy through to adolescence

**somatic symptoms:** bodily or physical indications of an illness or disorder

**somatic symptoms** of depression, such as changes in sleep and eating and also bodily aches and pains, are more common in some cultures; this means depression may be underdiagnosed as other symptoms are not so commonly reported.

**AGE OF ONSET**

A person can experience their first depressive episode at any age. However, onset is more common after puberty. There are cultural differences but the DSM-5 states that, in the United States, the disorder is most commonly diagnosed in people aged 20–30 years.

**PROGNOSIS**

Prognosis is highly variable, however, people who have experienced previous depressive episodes are less likely to go into complete remission. This is often due to comorbid and often undiagnosed personality disorders, substance use and/or anxiety. Some people may experience very little time between depressive episodes and experience severe symptoms. However, 20 per cent of people begin to recover within three months, while others may take up to one year. Some never experience another depressive episode while others may be symptom-free for several years before they experience another episode.

**RISK FACTORS**

Risk factors include personality, specifically neuroticism, **adverse childhood experiences (ACEs)** and stressful life events. Like schizophrenia, depression is also a heritable disorder so having one or more relatives with depression is also a risk factor for the disorder. Other risk factors include comorbid long-term physical health problems, such as diabetes and cardiovascular disease, and mental and behavioural disorders, such as anorexia nervosa.

**LINK**

For more on anorexia nervosa, see pages 301–313.

**LINKS**

To help with this section, revisit the section on synaptic transmission in Student Book 1, page 155.

**BIOLOGICAL EXPLANATION**

Biological explanations of depression focus on genetics, differences in neurotransmission and the role of hormones. Explanations also include anatomical differences in brain structures such as the prefrontal cortex, limbic system and hippocampus. However, you only need to know about one biological explanation of depression.

**KEY TERMS**

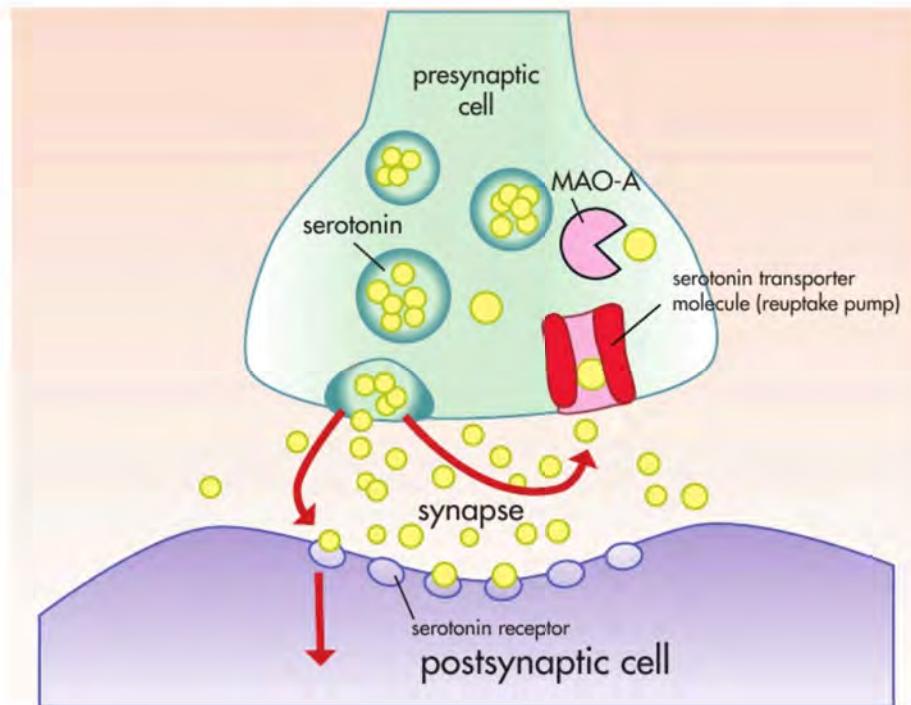
**monoamine depletion hypothesis:** a biological explanation which states that depression is caused by low levels of neurotransmitters including serotonin and noradrenaline

**permissive amine hypothesis:** a revised version of the monoamine depletion hypothesis which states the depression is caused by low levels of serotonin leading to dysregulation of noradrenaline

**THE ROLE OF NEUROTRANSMITTERS**

The **monoamine depletion hypothesis** states that depression is caused by low levels of serotonin and noradrenaline (Schildkraut, 1965). In the 1950s, researchers noticed that people taking drugs to decrease these neurotransmitters developed symptoms of depression. This led them to question whether naturally occurring low levels of serotonin and/or noradrenaline might be a cause of depression. This idea was tested by developing drugs which increased the availability of these neurotransmitters in the synapse to see whether they had an antidepressant effect. These drugs were effective and appeared to support the monoamine hypothesis.

Initially, researchers focused on low levels of noradrenaline as a cause of depression. Low levels of this neurotransmitter could certainly explain symptoms including low energy, inattention or poor concentration. Over time, researchers recognised that serotonin, which is involved in regulating sleep and appetite, also regulates noradrenaline levels. Multiple symptoms of depression could potentially result from low levels of serotonin, as this would also allow noradrenaline levels to fall. This idea became known as the **permissive amine hypothesis**.



► Figure 22.1 The serotonin depletion hypothesis suggests that depression is caused by reduced signalling in neural networks that communicate using serotonin. How many reasons can you think of for this?

## SKILLS

ANALYSIS, INTERPRETATION,  
EXECUTIVE FUNCTION

## ACTIVITY 2

Read the whole of the section on the role of neurotransmitters and look at Figure 22.1. Then copy and complete this text to explain why someone might have low levels of serotonin signalling:

Serotonergic activity may be reduced if ...

- presynaptic cells do not produce enough serotonin; this could be due to lack of \_\_\_\_\_ in the diet
- the person has an abnormality of the \_\_\_\_\_ gene
- the presynaptic cell does not release enough serotonin into the \_\_\_\_\_ meaning that it cannot bind to the \_\_\_\_\_ on the postsynaptic cell
- serotonin in the synapse gets taken back into the \_\_\_\_\_ cell by serotonin \_\_\_\_\_ in the cell membrane before it is able to bind to the postsynaptic receptors
- there is too much \_\_\_\_\_, the enzyme which breaks down serotonin within the presynaptic cell

### Wordbank

(Note: you will not need all of these words)

receptors, action potential, monoamine-oxidase, postsynaptic, synapse, tryptophan, TPH2, presynaptic, transporters, vesicles

## KEY TERM

### receptor sensitivity hypothesis

**hypothesis:** a biological explanation of depression which suggests the cause of this disorder is a change in the sensitivity of postsynaptic receptors in brain regions relating to mood

However, despite noradrenaline and serotonin levels increasing within hours of patients taking these new so-called 'anti-depressant' drugs, depressive symptoms do not tend to improve for between four to six weeks. This challenged the simple monoamine hypotheses and led to the development of more complex alternative explanations. The **receptor sensitivity hypothesis** suggests that when serotonin levels are low the brain compensates via upregulation, meaning

**KEY TERMS**

**anhedonia:** inability to find pleasure in previously enjoyed activities

**downregulation:** reduction in number or sensitivity of postsynaptic receptors

that the number and/or sensitivity of postsynaptic receptors increases. This helps to amplify the effect of the low levels of serotonin in the synapse. Likewise, if there is too much serotonin in the synapse the brain compensates via **downregulation** or reducing the number or sensitivity of the receptors. As many antidepressants increase serotonin, it is possible that over time this could lead to downregulation of receptors which would lead the presynaptic cell to release less serotonin. This would explain why it often takes several weeks before any significant reduction in depressive symptoms is observed. It also suggests that depression may in fact be caused by a naturally occurring excess of serotonin in certain brain regions.

**EVALUATION**

Support for low levels of serotonin as a cause of depression comes from research on tryptophan, a necessary substance for serotonin production. Francisco Moreno and colleagues (1999) reduced tryptophan in a sample of people with a previous depression diagnosis, but currently in remission. This was done using a chocolate-flavoured drink in one of two strengths. Within 24 hours they experienced a significant increase in depressive symptoms compared with a matched control group with no history of depression. This suggests that people with depression may be particularly sensitive to fluctuations in serotonin levels. However, issues relating to the processing of tryptophan and serotonin may be an effect of having depression rather than a cause, as the matched control did not show any significant mood-related changes after taking the drink. None of the depression in remission groups had used antidepressants in the past three months; however, previous use of antidepressants may have caused long-term effects on serotonin production, especially if the participants had ever used MAOIs.

**LINK**

For more on monoamine oxidase inhibitors (MAOIs) see page 293.

Strengths of this study include the use of a double-blind randomised design, meaning that the increased depressive symptoms must have been caused by the drink rather than a placebo effect as participants did not know whether they had received a full or quarter strength drink and neither did the researchers who administered the HAM-D. The HAM-D is a rating scale used to measure the severity of depressive symptoms. This design increased the internal validity of the findings suggesting a link between serotonin and depression.

However, research with mice has challenged the role of serotonin in depression. Mariana Angoa-Pérez and colleagues (2014) silenced a gene called TPH2 that helps turn tryptophan in food into serotonin. They found that the mice did not show significant signs of depression when tested on a variety of behavioural indicators of depression (e.g. signs of **anhedonia** and despair). This is important as it supports the idea that low levels of serotonin in humans may be an effect rather than a cause of depression or prolonged use of antidepressants, otherwise the mice should have also shown depressive behaviours. This said, some of the mice did exhibit signs of depression which were reduced by drugs which increase serotonin in the synapse. Overall, caution must be exercised when interpreting these findings. Although serotonin may play a role in depression, the exact nature of the role is unclear. Also, animal experiments can only ever explore a limited range of symptoms and cannot help explain symptoms which rely on higher order thinking, such as low self-esteem or inappropriate guilt. Neither do they explain the difference in the range of depressive symptoms exhibited by people from different cultural backgrounds.

One weakness with biological explanations of depression is that they ignore the role of environmental and social factors as triggers for depression. Research suggests that the majority of depressive episodes follow a change in circumstances, often involving some sort of loss (Brown and Harris, 1978). An interesting study that showcases the interaction between biological and social factors was conducted by Michael Raleigh and colleagues (1984). They

observed a troop of vervet monkeys, a species that live in hierarchically-ordered social groups. When the highest ranking (alpha) male was replaced by a new leader, his serotonin levels dropped by 40 per cent. The new leader experienced an increase in serotonin of approximately 60 per cent. These neurochemical changes were an effect rather than a cause of the change in social ranking and suggest that when humans face situations in which they lose an important role they too may experience a reduction in serotonin and subsequent depressive symptoms.

Paul Strickland and colleagues (2002) present a direct challenge to the serotonin depletion hypothesis and the findings of Raleigh et al. (1984) in their study of depressed women. Counter to expectation, they found significantly higher serotonin levels in the depressed group than a large matched control group, especially following negative life events. Although these findings could be accounted for by upregulation occurring in response to depleted serotonin the researchers instead argue that the relationship between serotonin and depression may depend on which type of receptors the serotonin binds with. For example, excess binding with a specific type of serotonin receptor ( $5-HT_{2A}$ ) in one area of the brain could lead to reduced binding with a different type of serotonin receptor ( $5-HT_{1A}$ ) in another brain area. Such theories help to explain apparently contradictory findings.

### WIDER ISSUES AND DEBATES

#### Reductionism

The monoamine hypothesis is reductionist as it oversimplifies the extremely complex interactions between numerous neurotransmitters and different types of receptors. Neurochemical effects can also differ depending on which brain regions are involved. The idea that a complex disorder such as depression can be explained by a single neurotransmitter has been rejected and it is now understood that the mechanical and simplistic nature of such explanations is misplaced. Risk of depression is fractionally increased by hundreds of genes which are expressed or silenced according to environmental factors, including stress. This demonstrates that focusing entirely on biological factors only provides a partial explanation.

### THINKING LIKE A PSYCHOLOGIST

On page 281 you learned about the diathesis-stress model of schizophrenia. However, diatheses do not just have to be genetic. Adverse childhood experiences (ACEs) can also predispose a person to depression in later life. As with the diathesis-stress model of schizophrenia, the disorder will only develop in people who are also exposed to some form of stressor. In Gordon Parker's 'lock and key' model of depression (Parker et al., 1998), he says that stressors in later life (the keys) will only 'unlock' depressive symptoms if they share similarities with the difficulties faced in early life (the locks). Therefore, it is not necessarily the severity of the stressor which determines whether depression follows, but the salience of the stressor, meaning the extent to which it has personal significance for the individual. Can you think of any childhood events that might act as 'locks' and similar events in adulthood that might later act as 'keys' that unlock depression?

### DRUG THERAPY

Biological approaches to treatment focus on correcting chemical imbalances through the use of drugs. Most antidepressants are agonists. This means that they increase or amplify the effects of neurotransmitters such as noradrenaline and/or serotonin. This can be done in a number of different ways. See Table 22.1 for four of the main types of antidepressant.

TABLE 22.1: FOUR TYPES OF ANTIDEPRESSANT

Type of antidepressant	Mechanism of action
Tricyclics	<ul style="list-style-type: none"> <li>block serotonin and noradrenaline transporters (SERT and NET) in the presynaptic cell membrane</li> <li>serotonin and noradrenaline are available for longer in the synapse, increasing availability for binding to postsynaptic receptors</li> </ul>
Selective serotonin reuptake inhibitors (SSRIs)	<ul style="list-style-type: none"> <li>block serotonin transporters (SERT)</li> <li>unlike tricyclics, SSRIs does not block NET</li> <li>serotonin is available for longer in the synapse, increasing availability for binding to postsynaptic receptors</li> </ul>
Serotonin and noradrenaline reuptake inhibitors (SNRIs)	<ul style="list-style-type: none"> <li>block serotonin and noradrenaline transporters (SERT and NET) in the presynaptic cell membrane</li> <li>unlike tricyclics they do not block receptors for other neurotransmitters (e.g. acetylcholine, histamine) and therefore have fewer side-effects</li> </ul>
Monoamine oxidase inhibitors (MAOIs)	<ul style="list-style-type: none"> <li>increase levels of serotonin, noradrenaline and dopamine by blocking (inhibiting) the enzymes that break them down           <ul style="list-style-type: none"> <li>MAO-A breaks down serotonin and noradrenaline within the presynaptic cell following reuptake</li> <li>MAO-B also breaks down dopamine and this can take place within the synapse</li> </ul> </li> <li>stopping these enzymes from doing their job therefore increases the availability of all three monoamines</li> </ul>

If symptoms do not improve after trying several different antidepressants on their own (monotherapy), doctors may prescribe a combination of two or more antidepressants. Also, they may combine antidepressants with drugs called mood stabilisers or antipsychotics.



The prescribing doctor's communication style and confidence can influence whether antidepressants are effective or not for individual patients

**KEY TERM**

**maintenance doses:** an ongoing, but usually lower, dose of a medication taken to avoid relapse when symptoms have improved

**EVALUATION**

Research evidence is contradictory regarding the efficacy of antidepressants medications. Critics, including Professor Irving Kirsch of Harvard Medical School, believe positive outcomes of antidepressants are placebo effects, meaning positive effects that are psychological rather than biological (Kirsch, 2019). Kirsch believes that when people believe that a treatment will help them, this becomes a self-fulfilling prophecy and they begin to recover. He also suggests that studies which support the use of antidepressants typically lack validity and generalisability; for example blinding often fails and participants and researchers become aware of who is in the placebo versus the control group leading to researcher bias and demand characteristics.

Despite the critics, researchers such as Andrea Cipriani and colleagues (2018) have found support for antidepressants. A large meta-analysis of 522 double-blind RCTs ( $n = 116,477$ ) found that all 21 drugs investigated led to significantly greater reduction in depressive symptoms than placebos. This means that although all participants expected their symptoms to improve, those taking the real drugs improved the most.

However, meta-analyses such as Cipriani et al. (2018) use secondary data so it is impossible to verify whether the patients' diagnoses were valid. This is problematic given overlapping symptoms between depression, anxiety and stress-related disorders. Typically, only people with mild to moderate symptoms and no comorbid diagnoses are included in drug trials and this limits generalisability. Meta-analyses are also less likely to be published as journals are more likely to publish studies with positive outcomes. However, a strength of Cipriani et al. (2018) is the use of statistical techniques (e.g. funnel plots, see page 324 for more) which showed that their results were unlikely to have been affected by publication bias.

Although there is evidence to suggest that antidepressants make a statistically significant difference in comparison with placebos, the actual size of the difference is often very small. However, supporters of antidepressants suggest that the effect size may seem small if all depressive symptoms are measured together but when individual symptoms are assessed the results are more impressive. For example, Frederik Hieronymus et al. (2016) found that in 90 per cent of studies, the real antidepressant group showed significant improvements in mood compared with the placebo group. However, when all depressive symptoms (not just low mood) were considered, only 44 per cent of studies showed a significant benefit of taking real antidepressants over placebos. This demonstrates that how you measure the effects of antidepressants can alter whether they appear to be effective or not.

**Practical issues**

Practical problems with antidepressants include a wide range of unpleasant side-effects which lead to non-compliance. Dry mouth, dizziness, drowsiness, blurred vision, nausea, insomnia, headaches, nervousness, digestive problems and sweating are all common, although they generally reduce over time. However, more serious problems can arise for some people. For example, severe worsening of symptoms in the initial weeks of starting the drugs may put some users at significant risk. This means that patients must be monitored carefully when starting these medications and doctors are likely to start with a relatively low dosage and increase this gradually as required.

Despite these limitations, when compared with other therapies, antidepressants can be relatively fast acting, low-effort and cheap. However, relapse rates are high when people stop taking the medication, meaning **maintenance doses** are often necessary for at least six months (Kato et al., 2020). A major limitation therefore is that the drugs may mask the symptoms without treating the ultimate cause of the problem. This is why drug treatments are typically paired with psychological treatments so that the individual can learn skills to help them to prevent relapse in the face of difficult future life events, for example.

**KEY TERMS**

**cognitive triad:** negative or irrational thoughts/beliefs about the self, the world and the future; a key element of Beck's cognitive explanation of depression

**depressogenic:** an adjective used to describe negative and/or irrational beliefs that are associated with the onset of depression

**schema:** a mental representation of all of our knowledge and experiences relating to a specific object, event, person or concept

**stroke:** a dangerous medical condition in which the blood supply to part of the brain is cut off; brain cells in this area deprived of oxygen and nutrients; causing disruption to cognitive functioning

**tyramine:** a substance found in certain food products such as preserved meats and blue (aged) cheeses

Other practical issues include significant risk of harm for certain drugs, including MAOIs, which are typically only prescribed for people who are resistant to other medications. This is because they can have dangerous, even fatal, interactions with other prescription drugs and foods, such as preserved meats and some cheeses. This is because MAOIs break down monoamines in our food. If they are inhibited, **tyramine** can build up and increase the risk of **stroke**. For this reason, anyone taking MAOIs must avoid foods which contain high levels of tyramine.



▲ Irving Kirsch of Harvard University Medical School believes exercise and psychological therapies can be as effective as antidepressant drugs without the unpleasant side-effects. Why do you think medications continue to be such a common treatment for depression?

**ONE NON-BIOLOGICAL EXPLANATION: A COGNITIVE EXPLANATION**

In the 1960s, Aaron Beck presented a cognitive explanation of depression (Beck, 1967). He argued that depressive symptoms, including negative emotions, poor concentration and insomnia, are caused by maladaptive or irrational thinking. He believed that we all develop **schemas** about ourselves, the world and the future in childhood. He called this three-part schema the **cognitive triad** and suggested that core beliefs contained within the cognitive triad are dependent on experiences involving parents, peers, teachers and other important people in our lives. He believed that children who have experienced neglect, bullying or other traumatic experiences are likely to form a negative cognitive triad, which Beck described as **depressogenic** (see Table 22.2). By this he meant that people with negative cognitive triads are more likely to become depressed than those with more positive triads. He believed that the stronger the negative beliefs and the more a person thinks about them, the worse their depressive symptoms will be. A negative cognitive triad means that a person is more likely to use faulty thinking strategies, leading to cognitive distortions.

TABLE 22.2: DEPRESSOGENIC BELIEFS ABOUT THE SELF, THE WORLD AND THE FUTURE

Depressogenic beliefs	
The self	'I am worthless and useless'
The world	'The world is full of problems that I cannot solve'
The future	'Nothing is ever going to change, everything is hopeless'

As the child grows and develops, the negative cognitive triad means that they automatically pay greater attention to experiences which confirm their beliefs, assimilating these experiences and reinforcing their negative views. Positive experiences are either ignored, as they do not fit their negative schema, or they are distorted and re-interpreted in a way that fits with their schema (e.g. 'I was only asked to the party because people felt sorry for me'; 'It doesn't matter that I got an A on the test; the test was too easy and everyone did well').

This is just one example of a wide range of faulty thinking strategies (cognitive biases/distortions) that Beck believed can result from a negative cognitive triad or after a negative event (see Table 22.3). Many people have negative thoughts sometimes but they will not become depressed. However, when negative thoughts are automatic, intense and given significance, i.e. we believe them to be true, depression becomes more likely.

TABLE 22.3: FAULTY THINKING STRATEGIES/COGNITIVE DISTORTIONS FOLLOWING A NEGATIVE EVENT

Thinking strategy	Description	Example
Polar reasoning ('All or nothing' thinking)	Unless everything is absolutely perfect it is considered a dismal failure	A student gets an A instead of an A* and feels worthless as a result
Selective abstraction	Minimising positive outcomes and exaggerating anything that can be interpreted negatively	A student gets 8 A*'s and a D and they focus on the D grade, which is magnified in their mind
Overgeneralisation	Concluding that negative outcomes are likely to be repeated even in significantly different situations	Failure on one essay means that failure of the entire course is inevitable

### EVALUATION

If Beck's explanation of depression is correct, it should be possible to show that people with depression think differently from those without depression. This was demonstrated in an experiment by José A. Ruiz-Caballero and Piedad Gonzalez (1994). People with and without depression were asked to cross out target letters in a randomised list of positive, negative and neutral words. When they were given an unexpected memory test, the depressed group remembered more negative words than any other type of words whereas there was no pattern to the words remembered by the non-depressed control group. This supports Beck's suggestion that people with depression encode and store negative information differently from non-depressed people. However, these differences in cognition may be an effect of having depression rather than a cause. Also, the study does not explain how this information then affects people's future behaviour.

These criticisms were addressed in a longitudinal study conducted by Lauren Alloy and colleagues (1999) investigating thinking patterns associated with future depressive episodes. Five thousand students completed questionnaires measuring their cognitive style, experience of stressful life events and depressive symptoms. They were tracked every six weeks for two years

and then every four months for an additional three years. The study showed that 17 per cent of students categorised as high risk (due to negative schemas and overuse of faulty thinking strategies) developed major depressive disorder (MDD) compared to just 1 per cent in the low risk group during the first 2.5 years of follow-up. A strength of this study is that the sample group came from diverse socio economic and cultural backgrounds, meaning the findings are more generalisable. However, it is unclear whether negative thinking would be a cause of depression in older adults, who may develop symptoms for different reasons, including naturally occurring hormonal and neurochemical changes.

Alloy et al. (1999) also supports Beck's claims about why some people develop negative schemas as the high risk group were more likely to have suffered from emotional abuse in childhood and recalled their parents as affectionless and controlling. The high risk group were also twice as likely to report having a mother with depression compared with the low risk group. This suggests that negative thinking style may have been modelled to them as children. However, the differences in rates of depression may also have been genetic, suggesting that the ultimate cause of the depression was genetic rather than cognitive.

Despite support for cognitive vulnerability as a cause of depression, other researchers have failed to replicate Alloy's findings (Lewinson, 1981), making it difficult to determine whether depression is caused by negative thinking or whether negative thinking is caused by depression. Either way, a strength of Beck's theory is that it led to the development of cognitive behavioural therapy (CBT). This therapy is described by the Royal College of Psychiatrists (2024) as 'one of the most effective treatments for depression' and 'at least as effective as antidepressants drugs'. However, it is important to avoid the treatment aetiology fallacy: just because depressive symptoms improve when negative thinking is replaced with more objective/optimistic thinking, this does not mean that negative thinking is the ultimate cause of depression.

#### LINK

For more on CBT see pages 137–144.

#### KEY TERM

##### **three questions**

**technique:** a technique used by cognitive behavioural therapists to help reveal underlying negative thoughts/beliefs which may be responsible for depressive symptoms; the client is asked 'What evidence is there for this thought?', 'What are the alternatives?' and 'So what?'; this technique is part of the process of cognitive restructuring

## COGNITIVE BEHAVIOURAL THERAPY (CBT)

Based on Beck's cognitive explanation of depression, CBT focuses on the idea that the way we interpret events in our lives is more important than the events themselves. The aim is to help people to reduce unhelpful and irrational thoughts and cognitive distortions. Individuals are challenged to think critically about whether there is evidence to support their negative beliefs about themselves, the world and the future. Through this process, they can be helped to dismantle their negative schemas and replace them with more realistic and objective thoughts. In turn, this should help to reduce distress and other depressive symptoms.

CBT focuses on problems that the person is facing in the present and aims to develop skills to solve these problems and change depressive behaviours. It is a time-sensitive therapy, meaning that therapists and their clients typically make a treatment plan including an agreed number of sessions in which they will focus on specific goals to be achieved within the time frame. Usually clients attend weekly or fortnightly sessions of about 30 to 90 minutes for around three months. Sessions tend to be highly structured with a specific focus each week. CBT can be delivered face-to-face or remotely via telephone, online or even through mobile phone applications (iCBT) and can be delivered one-to-one or in a small group.

Early sessions will include psychoeducation where the therapist helps the client to understand the links between automatic negative thoughts, emotions, behaviours and bodily symptoms and the situations that trigger these negative thoughts. The therapist will help them to understand key concepts, such as the negative cognitive triad, and explain that they will be working together to reveal some of the negative core beliefs that are driving their depressive symptoms.

Therapists help clients to identify negative thoughts and then using the **three questions technique** they may be asked, 'What evidence is there for this thought?', 'What are the alternatives?' and 'So what?'. Gradually they are helped to recognise their use of cognitive biases and also that their thoughts are nothing more than this, passing thoughts for which there

## KEY TERMS

**cognitive restructuring:** a technique used by cognitive behavioural therapists to help identify, disconfirm and modify negative beliefs/thoughts so that they are more objective

**dysfunctional thought record (DTR):** a worksheet used by people receiving CBT to record negative or irrational thoughts that occur between CBT sessions; it helps to identify biases and ways of thinking which can be focused on with the therapist during cognitive restructuring

A CBT therapist might set their client a homework assignment to go for a walk with a family member. The goal might be to challenge an irrational belief that 'I am boring, we will have nothing to talk about'

is little evidence, suggesting they are not true and therefore unworthy of further attention. The term **cognitive restructuring** is used to explain how therapists help people to replace negative thoughts with thoughts that are more objective, e.g. 'I failed the test because I was useless' might be changed to, 'I failed the test because I was ill last week and did not have enough time to study'.

Often clients will be asked to complete a **dysfunctional thought record (DTR)** or diary of their negative thinking between sessions. This helps to provide examples that can be discussed in future sessions (see Table 22.4). Homework is also a key part of CBT. The therapist may set the person behavioural experiments in which they are encouraged to collect evidence that can be used to challenge negative thoughts. For example, the therapist may challenge the person to go for a walk with a friend or relative. The idea is that this will lead to a positive experience, which will challenge their negative schema.



TABLE 22.4: EXAMPLE OF THE DYSFUNCTIONAL THOUGHT RECORD

Dysfunctional thought record	Example
1. Trigger (situation)	Seeing someone that you know in the street and that person ignoring you, and walking straight past
2. Negative thought triggered by this situation	The person does not like you, the person deliberately ignored you as they did not want to waste their time talking to you
3. Emotional reaction to this negative thought	Feeling sad and unworthy
4. Possible future behaviours	Withdrawal from social situations

## EVALUATION

One of the earliest studies of CBT was conducted by Augustus Rush, Aaron Beck and colleagues (1977). It was a small-scale RCT comparing 12 weeks of individual cognitive therapy (maximum number of sessions 20) with a tricyclic antidepressant in 41 people with chronic depression. Both groups showed a significant improvement on both self-reports and clinical ratings; however, 79 per cent of the cognitive therapy groups achieved marked improvement or complete remissions compared with just 23 per cent in the tricyclics groups. Drop-out rate was also significantly higher for the medication group ( $n = 8$ ) than the cognitive therapy group ( $n = 1$ ). Even when the data from the people who dropped out were removed from the analysis, cognitive therapy was still superior. When followed up at three and six months, the therapeutic effects were long lasting; only 16 per cent had relapsed and re-entered treatment compared with 68 per cent of the medication group. Based on the findings of this study, cognitive therapy certainly appears to be highly effective.

A problem with older studies of CBT is that they were often compared with older antidepressants such as tricyclics, which have high non-compliance rates and many unpleasant side-effects. Modern antidepressants may be more effective and therefore CBT may not appear as impressive in comparison. Also, some studies did not use placebo groups so it was impossible to know whether the positive effects of the drugs were merely a placebo effect. Likewise, those receiving therapy may only have improved due to aspects of the therapy that were unrelated to the cognitive aspects, e.g. spending time with a caring therapist with whom they developed a strong therapeutic alliance, increasing self-esteem due to successful commitment to attending sessions. Critics have also noted that the effectiveness of CBT may depend upon the skills and experience of the therapist (DeRubeis et al., 2005) and their ability to build a strong rapport with the client.

Modern research suggests that CBT can be more effective for both mild to moderate and even severe depression, if the average number of sessions are increased (Shapiro et al., 1994). For example, Andrew Butler (2006) conducted a review of 16 scientifically rigorous meta-analyses and found that CBT had large effect sizes for adult depression and was somewhat superior to antidepressants. However, non-compliance and relapse rates are higher for medication. This is supported by a recent meta-analysis ( $n = 1945$ ) by Zuojie Zhang and colleagues (2018). They found that CBT was more effective in preventing relapse than treatment as usual in antidepressant or wait-list control groups. Also, Jia-Mei Li et al. (2018) have demonstrated the efficacy for treatment-resistant participants who have previously failed to respond to antidepressant medication.

## Practical and ethical issues

A practical strength of CBT is that it is flexible and can be adapted to the client as progress is monitored in every session. Strategies that are not working can be abandoned and new ones tried. The collaborative nature of CBT also means that the therapy is more ethical as the client is tasked with finding their own solutions to their problems with support from the therapist. This is in contrast with drug therapies, where the power is ultimately with the prescribing doctor who must make careful decisions about how to treat their patients.

CBT has also been shown to be effective with clients from a range of cultural backgrounds. For example, a meta-analysis by Ting Kin Ng and Daniel Fu Keung Wong (2018) showed that although CBT was developed in the United States it can be used to treat people from collectivist cultures such as China. Culturally modified versions of CBT which integrate principles of Taoist philosophy have been even more successful (see page 208) and widely applicable.

A practical problem with CBT is that therapists must make careful decisions about any behavioural task that they set for clients. If these do not go according to plan, the findings may reinforce the client's negative self-schema and low self-esteem. This decision-making relies heavily on the therapist having a strong rapport with the client. If therapists and/or clients find it difficult to form this rapport the success of the therapy will be limited. This means CBT may be more effective for some people than others, especially those with strong communication

**KEY TERM**

**cognitive flexibility:** the extent to which a person is able and/or prepared to switch between different perspectives, mental processes or thinking strategies, to be objective and use knowledge in a variety of ways

skills and potential for **cognitive flexibility** (CF). This is supported by Carly Johnco and colleagues (2015) who found that cognitive flexibility was weaker in a sample of 60–86-year-olds than an age-matched non-depressed group. They also found that those with decreased cognitive flexibility found cognitive restructuring more challenging and the therapy was less effective. This suggests that the CBT may not be suited to everyone and that an assessment of CF may be necessary before using it with older adults. If therapy is not successful this could increase distress and further decrease self-esteem as the person may feel that they are wasting the therapist's time. It could also mean the person is at increased risk of psychological harm due to poor therapy choices which do not take account of individual differences.

**WIDER ISSUES AND DEBATES****Issues relating to socially sensitive research**

One issue with this approach to therapy is that the focus is on the individual; they are tasked with changing their thinking. This could lead people in society to believe that individuals with depression have a choice about their feelings and are somehow to blame for not taking control of their disorder. This could have implications for the way that the person feels about themselves and could lead to further marginalisation of people with depression in the workplace, for example. The focus on the way that situations are interpreted by the individual means that unjust practices may be allowed to continue as it is argued that it is the way people interpret what is happening that is the problem, not the actual way that they are being treated.

**CHECKPOINT**

- How many symptoms are necessary to be diagnosed with depression according to DSM-5?
- Which age group is more vulnerable to depression?
- According to the permissive amine hypothesis, low levels of which neurotransmitters are responsible for depressive symptoms?
- Which substance in the diet is necessary for the production of serotonin?
- What is the difference in the mechanism of action for SSRIs and MAOIs?
- Why are MAOIs only used with people who are resistant to other treatment options?
- What are the three aspects of Beck's negative cognitive triad?
- Can you give an example of one faulty thinking strategy/cognitive distortion?
- What is the three questions technique?
- Why might some people prefer drug treatment to CBT?

**SKILLS**

**Critical Thinking,  
Interpretation, Analysis**

**EXAM PRACTICE**

- Describe one feature of unipolar depression. (2 marks)
- Explain one non-biological explanation of one disorder other than schizophrenia. (4 marks)
- Carlton has just started training as a cognitive behavioural therapist. Explain two pieces of advice that you could suggest to Carlton that will help him to become an effective cognitive behavioural therapist. (2 marks)
- Queenie has been depressed for several months. She has tried two different types of antidepressants and her doctor recommends that she tries cognitive behavioural therapy. Queenie is not sure about this. She thinks the therapy sounds complicated and time consuming. To what extent do you feel that cognitive behavioural therapy will be an effective treatment for Queenie? (16 marks)

# CHAPTER 23 ANOREXIA NERVOSA

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- symptoms and features of anorexia nervosa
- one biological explanation of anorexia nervosa – the role of genes
- one non-biological explanation of anorexia nervosa – social learning theory
- two treatments/therapies for anorexia nervosa: drug therapy and cognitive behavioural therapy.

## GETTING STARTED

Anorexia nervosa is an eating disorder in which people become dangerously underweight due to restricted calorie intake. Between 1 and 6 per cent of women and less than 0.5 per cent of men will experience anorexia nervosa at some point in their lives but did you know it could be triggered by something as ordinary as a trip to the dentist? Psychiatrist Tony Jaffa (2007) described the cases of three teenage patients who developed anorexia nervosa following dental treatment, such as getting a fixed brace to straighten their teeth. In each case the dentist had advised the young people not to eat sugary snacks between meals and this restriction had triggered them to begin restricting other foods. Jaffa notes that all three had also experienced other stressors, such as exam pressures and low self-esteem, but highlights the significant impact that advice given by health professionals can have especially for vulnerable young people.

The dentist's advice and getting braces was clearly not the cause of the disorder, but it merely correlated with the onset. Dane and Bhatia (2023) state that eating disorders like anorexia nervosa result from interaction between numerous biological, psychological and sociocultural risk factors.

- What factors do you think might have caused the young people in Jaffa's case study to develop such unhealthy relationship with food?
- Do you think anorexia nervosa is determined more by nature or nurture? How could you investigate this?



Tony Jaffa found that three young people admitted to his eating disorders clinic had developed anorexia nervosa following dental treatment such as getting fixed braces ►

## SYMPTOMS

People with **anorexia nervosa (AN)** experience a range of physical, cognitive, affective and behavioural symptoms. In the DSM-5 this disorder is classified as a **feeding and eating disorder**. To receive a diagnosis, a person must demonstrate the following symptoms:

- restricted energy intake relative to requirements, leading to a significant low body weight in the context of the person's age, gender, physical health (less than minimally normal/expected)
- intense fear of gaining weight or participating in persistent behaviour that will interrupt the gaining of weight
- disturbed by one's body weight or shape, self-worth influenced by body weight or shape, or persistent lack of recognition of seriousness of low bodyweight (APA, 2013).

## SKILLS

EMPATHY/PERSPECTIVE TAKING,  
COMMUNICATION

## KEY TERMS

**anorexia nervosa (AN):** a persistent pattern of restrictive eating or other behaviours aimed at establishing or maintaining abnormally low body weight, typically associated with extreme fear of weight gain (WHO, 2019/2021)

**feeding and eating disorder:** a group of disorders in which the primary symptoms are abnormal eating behaviour and negative attitudes towards food, eating and body shape and size

**laxatives:** medications used to regulate and encourage bowel movements

**purgung:** intentional behaviours which serve to remove food or calories from the body including self-induced vomiting, misuse of laxatives or excessive exercise

## ACTIVITY 1

Make a copy of the table below to show how the bullet-pointed symptoms of anorexia nervosa (AN) (above) might affect a person in their everyday life. Try to think about how a person with AN might behave, what they might think about themselves, and how they might feel.

	Situation	Effect on...		
		Behaviour	Thoughts	Feelings
Restricted energy intake relative to requirements, significant low body weight	Avoiding school canteen at lunchtime	Goes to library instead, tell friend they will eat when they get home as they have work to finish for next lesson	This is helping to achieve my daily energy restriction goals	Secretly proud of achievement
Intense fear of gaining weight, persistent behaviour that interrupts weight gain				
Finds body weight/shape disturbing, affects self-worth, ignores seriousness of low bodyweight				

The symptoms listed in the ICD-11 are similar to those listed in the DSM-5. They also include various ways in which people restrict calorie intake, for example, by choosing low calorie foods, excessive slow eating of small amounts of food, hiding and/or spitting out food. They also list **purgung** behaviour, for example the use of **laxatives** or skipping insulin doses in people with diabetes, and ways that people increase their energy requirements in order to burn more calories, for example excessive exercise, use of certain medications and herbal products and deliberately exposing themselves to the cold.

ICD-11 gives examples of how a person might demonstrate preoccupation with body weight and shape, for example by repeatedly using weighing scales and tape measures to document

changes, and searching for information online about weight loss. Ways of ignoring the seriousness of weight loss might be avoiding mirrors and tight-fitting clothes, or only buying non-size-specific clothing.

ICD-11 gives guidance about how low body weight should be to be classed as significantly low, e.g. a **body mass index (BMI)** of less than 18.5 in adults or a BMI which is under fifth percentile in children and adolescents (only 5 per cent of children weigh this much or less). Losing more than 20 per cent of body weight in six months would be a symptom of AN under the ICD-11. ICD-11 also clarifies that low body weight must not be due to other medical conditions or lack of food availability (WHO, 2013).

## KEY TERMS

**binging:** the rapid consumption of an excessive quantity of food  
**binge-purging type:** a subtype of anorexia nervosa in which the individual has engaged in binge-purging in the past three months

**body mass index (BMI):** a measure of body weight relative to height calculated by dividing a person's weight in kilograms by the square of their height in metres

**restricting type:** a subtype of anorexia nervosa in which the individual has not engaged in binge-purging in the past three months

It should be noted that advice for weight gain/loss may not be valid if based solely on body mass index. This is because BMI does not directly measure fat. A person with a lot of muscle and little body fat may still have an BMI that is above average but they do not need to lose weight to be healthy. Also, the initial body mass index statistics were based on white European men (Katella, 2023). For this reason, BMI may not be as valid as a measure of health in women and people from other areas of the world, where distribution of body fat may be different. For example, WHO has released specific advice for interpreting BMI with Asian people (Tan, 2004). The relationship between weight and health is also affected by age and lifestyle.

## FEATURES

In this section you will learn about five features of anorexia nervosa, including the fact that there are different subtypes.

## SUBTYPES

DSM-5 lists two subtypes of AN: **restricting type** and **binge-purging type**. These refer to whether the person has or has not engaged in **binging** or purging in the last three months; those who have not engaged in binge-purging are classed as 'restrictive type'. Binge-purging type refers to people who meet all the criteria for anorexia nervosa but also experience periods when they take in a lot of calories through eating much more than usual and then use purging behaviours.

## PREVALENCE AND AGE OF ONSET

Anorexia nervosa is usually diagnosed during adolescence or early adulthood, e.g. between the ages of 10 and 24 years. Early and late onset is less common, e.g. before puberty or after age 40. Between 2.4 to 4.3 per cent of people will be affected by AN at some point in their lives but these figures vary significantly by gender and culture (see the section on Cultural differences). Lifetime prevalence may be up to 4 per cent in women and 0.3 per cent in men (Tessema et al., 2023).

Onset of the disorder often appears to coincide with a significant life stressor such as starting university or leaving home. Although these are not symptoms of the disorder itself, there are physical effects associated with anorexia nervosa. For example, some women may experience disruption to the menstrual cycle and may stop having monthly periods. Prevalence is also higher in people with autism and ADHD compared with people without these diagnoses (Marucci et al., 2018).

## Cultural differences

There are some cultural features in the diagnosis of AN, with prevalence seeming to be higher in high-income countries that are highly industrialised, such as the USA, Europe, Australia and New Zealand. However, globalisation means that cultural values, roles, food availability and lifestyle are becoming increasingly similar in many areas of the world. This has led to an increased prevalence of AN in some countries. This said, prevalence is still lower in Africa and

Latin America and for people from these cultural groups who are residents in the United States; however, this may be linked more to decreased help-seeking from medical practitioners rather than a genuinely lower rate of AN (van Hoeken et al., 2016). AN may still be present in people from countries in Asia but often there is no indication of the fear of gaining weight that is central to the diagnosis in the minority world (e.g. Europe and the United States). Instead, people may complain of stomach aches and pains as a reason for reduced food intake. However, if the person is still very preoccupied with weight loss or avoidance of weight gain they may still be diagnosed with AN.

## PROGNOSIS

### LINK

For more on unipolar depression see pages 287–300.

Some people recover almost entirely from episodes of AN; however, for many it becomes a chronic condition which may last many years. For those with dangerously low weight, e.g. BMI of 14 or less, hospitalisation may be necessary to prevent physical complications and preserve life. Full remission becomes less likely under these circumstances and physical health problems resulting from malnutrition are more common. Typically, people recover within five years although they may still exhibit some symptoms such as lower than average body weight and preoccupation with perfectionism. Relapse is common especially within the first 18 months following treatment (Berends et al., 2016). Common comorbid disorders include unipolar depression, anxiety disorders, and obsessive-compulsive disorder (Marucci et al., 2018).

## THINKING LIKE A PSYCHOLOGIST

The changing prevalence rates from AN in men and women around the world is an interesting topic. This topic is discussed in the book *Crazy Like Us* by Ethan Watters. The author argues that increased prevalence of AN in the 1990s was due to increased exposure to Western diagnostic labels rather than increased exposure to Western popular culture and other media. This is an interesting contrast to the views of Anne Becker and colleagues, whose research into attitudes towards eating in Fiji are discussed on pages 328–331.

## BIOLOGICAL EXPLANATION – THE ROLE OF GENES

Evidence suggests that anorexia nervosa may be a highly heritable disorder. For example, Andrea Poyastro Pinheiro and colleagues (2009) state that people with at least one first degree relative with anorexia nervosa are ten times more likely to develop the disorder than people with no such relative. Also, estimates, based on twin studies, suggest a heritability rate between 48 per cent and 74 per cent (Yilmaz et al., 2015).

### KEY TERMS

**bulimia nervosa:** an eating disorder in which the main symptoms involve binge eating followed by purging behaviours

**linkage studies:** a method which aims to identify chromosomal regions linked to specific disorders; genomes of biological relatives with the same disorder are compared to see whether they share specific genetic markers

**Linkage studies** compare the genomes of family members who both share the same disorder and provide another way of exploring the role of genetic factors in mental health. For example, Dorothy Grice and colleagues (2002) studied 192 families including a relative with anorexia nervosa and at least one other relative either with anorexia nervosa or another eating disorder, e.g. **bulimia nervosa**. Initial findings failed to identify any areas of the genome specifically associated with eating disorders. However, further analysis of a subgroup of 37 families including at least two relatives with anorexia nervosa (restrictive-type) revealed evidence to suggest a specific region of chromosome 1 which may make people susceptible (vulnerable) to developing AN.

Linkage studies are now seen as outdated and more recently researchers have used genome wide association studies (GWAS). One such study in Japan identified the specific area of a gene called SPATA17 on chromosome 1 which seemed to differ in people with anorexia nervosa (Nakabayashi et al., 2009).

Since these early studies, more and more genes have been identified that appear to increase the risk of anorexia nervosa. For example, Ashley Scott-van Zeeland and

colleagues (2013) compared 152 different genes in a sample of women with anorexia nervosa, and another group without the disorder. They found significant differences in and around the EPHX2 gene between the two groups. The EPHX2 gene is associated with production of an enzyme (epoxide hydrolase 2) that breaks down cholesterol. This suggests that disruption to the breakdown of this substance may be linked to the development of anorexia nervosa.

#### KEY TERM

**major histocompatibility complex (MHC):** a group of genes that code for proteins that are critical to the correct functioning of the immune system

However, it is important to remember that like many other disorders, AN is polygenic, meaning variants of many genes increase the risk of developing this disorder. For example, recent research by Jessica Johnson and colleagues (2022) has identified 53 genes associated with anorexia nervosa. One interesting and original finding was a link between AN and a set of genes called the **major histocompatibility complex (MHC)**. These genes code for proteins which coordinate the body's immune system. Specifically, they identified the possible role of the CLIC 1 gene, stating that upregulation of this gene, i.e. increased expression, was associated with lowest body weight BMI (Johnson et al., 2021). This gene codes for chloride ion channels and is linked to synaptic pruning and neural connectivity. Abnormalities of this gene could therefore affect the way neurons communicate with each other in areas of the brain linked to eating and appetite.

#### EVALUATION

##### LINK

See Student Book 1, page 198 for more on the strengths and weaknesses of twin studies.

Research into the role of genetics in anorexia nervosa has advanced as new methodologies for studying the role of genes have emerged. However, every research method has its limitations. Family studies are limited as it is impossible to determine whether the increased risk in first degree relatives is due to transmission of certain genes or a result of observational learning. Twin studies can also be problematic due to the shared environment fallacy. This means that the greater similarity in concordance states for monozygotic twins, compared with dizygotic twins, may be due to their identical appearance which means they are also treated more similarly than dizygotic twins (who are non-identical). This means that the heritability of AN may be overestimated.

Linkage studies have also been criticised for lacking specificity as they are only able to identify loci (regions) on chromosomes that are similar in people with AN and not identify specific candidate genes. Also, as they map the genomes of relatives with a specific disorder (e.g. anorexia nervosa) they may not be helpful in small families as there may not be enough affected people to conduct the study. In addition to this, they may miss including relatives with relevant gene abnormalities which have not been expressed, due to favourable environmental circumstances for example.

Although GWAS studies are a popular way of identifying potential candidate genes, these are also limited in that they require very large sample sizes in order for findings to reach statistical significance. Also they only identify candidate genes but do not actually explain *how* these genes make a person more vulnerable to developing the disorder.

A strength of current research into genetic underpinning of anorexia nervosa is that it may help to change societal attitudes towards this potentially fatal disorder. If this research is shared publicly through the media, e.g. news items, television and social media, it may help to change people's attitudes to decrease prejudice and stigmatisation of this disorder. Research cited by Lisa Brelet and colleagues (2021) suggests that such prejudices even exist within medical professionals – such attitudes certainly are unhelpful to families trying to cope with their relatives' symptoms and any research which helps to overcome such negative opinions may be beneficial to individuals and their families.

## WIDER ISSUES AND DEBATES

### Nature versus nurture

Despite mounting evidence that anorexia nervosa has a genetic component, like many other disorders, it is important to remember that the risk is only fractionally increased by possessing one or more of these genes. Gene expression is affected by environmental (or epigenetic) factors which can lead to overexpression or underexpression. Inheritance (genotype) may therefore create a genetic diathesis, however lifestyle choice and life events determine the effect of genes on behaviour (phenotype). This means that one cannot ignore the role of the environment when considering the role of genes.

Also, anorexia nervosa is a heterogeneous disorder – not everyone with this diagnosis shares the exact same traits or symptoms. There are different subtypes and degrees of severity, some of which are more heritable than others. On the one hand, the identification of multiple genes which have differing effects on the body is a strength – as it helps to explain the diversity in symptoms. However, cultural differences in prevalence and range of symptoms, e.g. no reported ‘fear of fatness’, indicate the important role that cultural factors play in this disorder.

## ONE NON-BIOLOGICAL EXPLANATION – SOCIAL LEARNING THEORY

### KEY TERMS

**incentives:** rewards that increase the probability of certain behaviours being imitated

**prevalence:** how often a certain behaviour is modelled to an individual; the higher the prevalence the greater the probability that the behaviour will be imitated

Social learning theory suggests that we learn social norms for body size and shape through observation and imitation of role models. These are people with whom we identify, because they are attractive, powerful and/or popular such as fashion models, actors, presenters, musicians, vloggers, influencers and other famous people – all of whom may be seen as role models, especially by younger men and women. The physical appearance of these role models may influence attitudes about physical appearance.

Vicarious reinforcement may also encourage behaviours such as dieting and excessive exercise in an effort to lose weight, as role models are seen to be rewarded for their appearance via increased fame and popularity, including ‘likes’ and ‘shares’ on social media. When public figures gain weight this is often punished through negative media attention. Vicarious punishment may also encourage media consumers to avoid behaviours which could lead to weight gain.

Bandura (1977) uses the terms **prevalence** and **incentives** to explain why certain norms are established and behaviours imitated. Prevalence refers to the frequency of a certain behaviour;

the more often a behaviour is observed the greater the probability that it will be imitated. The wealth of media imagery idealising thinness means this specific body image becomes a readily available template to which people compare their perception of their own body. Incentives refer to motivations to achieve the same body shape or size, i.e. anticipated rewards such as social acceptance and admiration of others. Kristen Harrison and Joanne Cantor (1997) use the terms ‘thinness depicting’ and ‘thinness promoting’ to refer to the types of media that are associated with the development of anorexia nervosa. However, their research showed that engagement with women’s magazines was a stronger predictor for disordered eating than television viewing.

Donald Schwartz and colleagues (1982) conducted a review of Miss America beauty pageant competitors from 1959 to 1978 and found that over that 20-year



▲ Research suggests that anorexia nervosa has a genetic component but as yet there are no recommended biological treatments for this disorder

**KEY TERM**

**social media literacy:** the extent to which a person has the ability to access, understand, evaluate and interact with social networking sites, includes understanding of the intentions of the individuals and/or organisations that share content on such platforms and the use of algorithms to target users with specific content

period the average weight of contestants decreased but, at the same time in America, the actual average weight of females was slightly increasing. The body size of the women in the pageant became gradually slimmer while, at the same time, the average body size of 'normal' women was increasing. This would suggest that the body type that was being hailed as 'ideal' and 'beautiful' was actually incongruent with reality, which could make women see themselves as unfairly 'fat' compared to these images. David Garner and colleagues (1980) also found that over a 10-year period from 1970 to 1980 the number of diet articles in women's magazines hugely increased, suggesting a societal preoccupation with the need to lose weight.

Today, people receive messages about body ideals from social media apps such as Instagram and TikTok. Although research in this area is increasing, the research is sometimes poor quality which mean conclusions must be cautious. This said, Alexandra Dane and Komal Bhatia (2023) conducted a systematic review of research in this area, including 50 studies from 17 countries. They stated that the relationship between social media and body image is moderated by the type of content being accessed (e.g. pro-eating disorder content) and **social media literacy**. Existing body dissatisfaction strengthens the relationship between social media usage and disordered eating. However, this dissatisfaction, in itself, may result from exposure to unrealistic body ideals and images which promote fitness and thinness (Dane and Bhatia, 2023).

**EVALUATION****LINK**

For more on the effects of exposure to social media content glorifying extreme thinness, see the contemporary study by Reichel et al. (2014) on pages 331–336.

Evidence to support the social learning theory explanation comes from the fact that diagnoses of anorexia nervosa have increased steadily since the 1950s, which marked the beginning of the change towards slimmer models and the preoccupation with body image and dieting in the media. Likewise, research has found that anorexia nervosa is more common in dance and modelling students compared with other female university students due to over-adherence to social norms around weight loss in pursuit of a very slim body image (Garner and Garfinkel, 1980). In recent years, more males have been diagnosed with anorexia nervosa, which coincides with changes in media targeted at men e.g. diet, fitness and body image content on social media. Both of these factors would suggest that there is a relationship between changes in cultural views and increased diagnoses of anorexia nervosa.

Although there is compelling evidence for the effect of cultural ideals on body image, and that this can possibly lead to the development of disorders such as anorexia nervosa, there are also many people who are exposed to these ideals that do not develop eating disorders. This suggests that sociocultural factors, and specifically social learning, may be one of a number of factors that combine to increase the risk of developing anorexia nervosa. For example, sociocultural factors may only influence the body image of people with a genetic predisposition to develop the disorder. It is likely that certain personality traits encourage certain people to become more obsessive in terms of their media intake, thus increasing prevalence and incentives. This may be particularly true for people with problematic internet use (PIU) whose exposure to thinness depicting and promoting imagery via social media may be particularly high, putting them at greater risk. This demonstrates that it is not simply heavy media consumption that increases the risk of anorexia nervosa but that individual differences, including personality traits that predispose heavy media use, may also underpin disordered eating.

**LINK**

For more on the link between social learning theory and eating disorders in general, see the contemporary study by Becker et al. (2002) on pages 328–331.

Evidence from Hans Wijbrand Hoek and colleagues (2005) demonstrated that anorexia nervosa was non-existent in the indigenous population of Curaçao (a Caribbean island in the Netherlands Antilles) where it is culturally desirable to be overweight. This was despite exposure to US and Netherlands television channels. However, social learning theory is still supported as the indigenous islanders may have failed to identify with characters in these programmes and continued to conform to the traditional cultural norms of the island. Rates of AN in white and mixed race women and girls were similar to those found in the United States and the Netherlands. However, the majority of the diagnosed individuals had visited one or other of these countries and may have been more likely to identify with western standards regarding body size and shape.

**EXAM TIP**

The longest essay you could face in Paper 4 Clinical is a 16-marker. This means that just over a third of your essay should be description (120–150 words). Break your knowledge down into key concepts, e.g. identification with role models, prevalence and incentives including vicarious reinforcement/punishment and mediating factors (see Student Book 1 for a recap). Link each concept to anorexia nervosa, e.g. the person may not be able to ‘reproduce’ the same body shape that they see in the movies, however, searching on social media may help with dieting/exercise advice.

You will also need three or four paragraphs of evaluation. Aim to revise one study that can be used as supporting evidence, e.g. Becker (see pages 328–311) and one study that suggests that AN cannot be explained by social learning theory alone, e.g. a study focusing on genetic factors. You should have a competing argument for at least one of these studies, e.g. limitations of the study which challenge the credibility of the findings. Aim for at least one to two more paragraphs focusing either on further research evidence, e.g. Hoek et al. (2005) or difficulties in carrying out truly scientific research in this area.

**TREATMENTS FOR ANOREXIA NERVOSA**

Due to the medical complications associated with malnourishment, the primary goal of treatment for anorexia nervosa is weight gain. However, psychological therapies are also used to treat anxiety associated with weight gain and to help improve mood regulation, social skills, body image and self-esteem, and to prevent relapse.

**BIOLOGICAL TREATMENT: DRUG THERAPY**

The National Institute for Health and Care Excellence (NICE) state that drugs should not be used as a primary or sole treatment for patients with anorexia nervosa – costs may outweigh the benefits owing to physical problems resulting from taking medications when seriously underweight. For example, heart problems and other physical health issues are not uncommon and some medications may lead to side-effects which put additional pressure on the body and could put the patient at risk. This demonstrates the importance of weighing potential risks and benefits carefully before making decisions. This said, researchers have investigated a variety of options including appetite stimulants, anti-anxiety drugs, antidepressants and atypical antipsychotics as well as a range of hormone-based treatments.

Some of the most commonly used drugs are SSRIs and atypical antipsychotics. As comorbid conditions (e.g. depression, anxiety, obsessive-compulsive disorder) are common in people with anorexia nervosa, this means that any medications that can be used to treat these symptoms may enable the person to benefit more from psychological therapies used to treat symptoms of anorexia nervosa. For example, a patient who is anxious about their weight gain, which is necessary to treat their eating disorder, is less likely to drop out of a therapy programme if their anxiety can be treated with drugs.

**LINK**

To refresh your knowledge, see pages 220–222 for SSRIs and page 282 for atypical antipsychotics.

**EVALUATION**

The evaluation has been divided into sections covering three of the main classes of drugs used in the treatment of AN.

**Appetite stimulants**

Restricted energy intake may result from poor appetite, meaning drugs that stimulate appetite may be helpful. Research has also suggested that such drugs may disrupt sleep and increase dysphoria. In a double-blind randomised control trial, Alin Andries and colleagues (2013) found that women with AN who took the appetite stimulant drug dronabinol gained an average of 0.73 kg more than the placebo group. However, non-compliance is extremely problematic in people with AN and drugs which increase appetite in many populations tend to be less effective with people with AN.

### Targeting mood and anxiety

Tricyclic antidepressants have not proved effective for people with AN (Frank et al., 2016), however there is some evidence that SSRIs can be more effective than placebos in terms of encouraging weight gain. However, larger controlled trials indicated that although SSRIs may have some impact on body dissatisfaction and mood, they did not significantly improve weight gain, weight maintenance and relapse prevention comparison with placebos (Frank, 2020). This is supported by research by Corrina Ferguson et al. (1999) who compared 24 patients taking SSRIs and 16 patients treated on the same ward who were not taking SSRIs. There was no significant difference between them in terms of age or body weight, but most importantly there was no difference in terms of their clinical symptoms or self-reported anxiety. This suggests that the use of the drugs had no significant impact on their treatment outcomes. However, Walter Kaye et al. (2001) published evidence that in a double-blind study comparing outcomes for patients given fluoxetine with patients given a placebo, those on fluoxetine were much more likely to stay on the medication up to a year into their outpatient treatment. They also found that those who continued taking the fluoxetine had much lower relapse rates, measured by increased body weight and improvement in symptoms.

### Targeting distorted body image

Distorted body image and beliefs about the lack of seriousness of weight loss often border on delusional, suggesting that antipsychotics may be a useful treatment. These drugs also often lead to significant weight gain in patients with schizophrenia, suggesting they may be an effective treatment for AN. However, results from various trials of the atypical antipsychotic olanzapine have been contradictory. Occasionally, olanzapine has led to superior outcomes in comparison with placebos, such as faster and greater weight gain (e.g. Attia et al., 2019). However, there have been many studies that have shown no significant difference between olanzapine and placebos (e.g. Kafantaris et al., 2011). If drugs such as olanzapine are tried, it is important to remember that the first two months or so may be difficult as it can take this long for the drug to take effect and reported side-effects include hunger and weight gain, which are likely to lead to additional stress for many patients.

#### MATHS TIP

In his review of drug treatments for anorexia nervosa, Guido Frank (2020) comments that one very small study ( $n = 10$ ) showed 'no significant difference' in weight gain between the group taking an atypical antipsychotic called quetiapine and the placebo group (Powers et al., 2012). In studies with very small sample sizes, it is much more difficult to obtain a significant result. This does not necessarily mean that the genuine drug is no more effective than the placebo, just that there is insufficient evidence to reject the null hypothesis. However, Frank (2020) states that the findings of this study may be an example of a type two error, meaning the null hypothesis was retained when it should have been rejected (i.e. the real drug really was more effective than the placebo). This is an example of a 'false negative'.

#### WIDER ISSUES AND DEBATES

##### Psychology as a science

Typically, drug therapies are only approved if there is a strong evidence base to support their safety and credibility. Studies should be large-scale, double-blind randomised control trials. This means that the drug has performed better than a placebo in reducing symptoms, that possible side-effects are well recognised and that the risk of their development can be assessed for each individual offered the treatment.

**EXAM TIP**

When you are evaluating treatment and therapies, use REAP: Research evidence, Ethical issues, Alternatives and Practical issues.

- Research evidence – what studies are there to support whether it works or not and is the evidence credible? For example, think – control group, sample size, blinding, follow up, etc.
- Ethical issues – is the person receiving treatment in control of what happens to them, are they empowered or disempowered by the therapy? Are they and therapist/doctor equal partners or does one person have more power over the other?
- Alternatives – how does the therapy compare with other options? For example, how does drug therapy compare with CBT?
- Practical issues – this might include financial costs attached to delivering treatment, (e.g. does it need to be delivered by qualified/trained professionals?), how long are the sessions, where will it take place, is it accessible, could it be offered online? Practical issues might also cover side-effects and other factors affecting compliance.

**COGNITIVE BEHAVIOURAL THERAPY**

Cognitive behavioural therapy was initially developed for use with people with mood disorders but has been adapted to tackle a range of disorders, including anorexia nervosa. Enhanced cognitive behaviour therapy (CBT-E) was developed by Christopher Fairburn, initially as a treatment for bulimia nervosa, but it was later adapted for use with all eating disorders (Fairburn, 2003). It specifically targets thoughts and behaviours associated with disordered eating behaviour. The therapy is conducted on a one-to-one basis and people will usually attend 20 to 40 sessions, depending on the severity of the disorder. It has been adapted for use with inpatients and outpatients as well as young people. However, every therapist will adapt the programme to suit the individual needs of their client.

Initially, a detailed interview takes place, usually over two separate sessions. This allows the therapist to assess the patient's suitability for treatment using CBT-E, at the current time. The therapist will also explain the treatment process and ask whether the person has any questions. For the therapy to be effective, any possible barriers to treatment must be removed at the outset. This means if there are other factors in the person's life that might affect the success of the treatment, these should be dealt with before therapy begins.

Treatment takes place through four defined stages as shown in Table 23.1 overleaf. However, for people with anorexia nervosa who need to gain weight to achieve an average BMI for their height, they will be encouraged to make the decision themselves to start making changes which will help them to gain weight rather than having a timetable imposed on them by the therapist.

**SKILLS**

SELF-REGULATION, ANALYSIS,  
EXECUTIVE FUNCTION

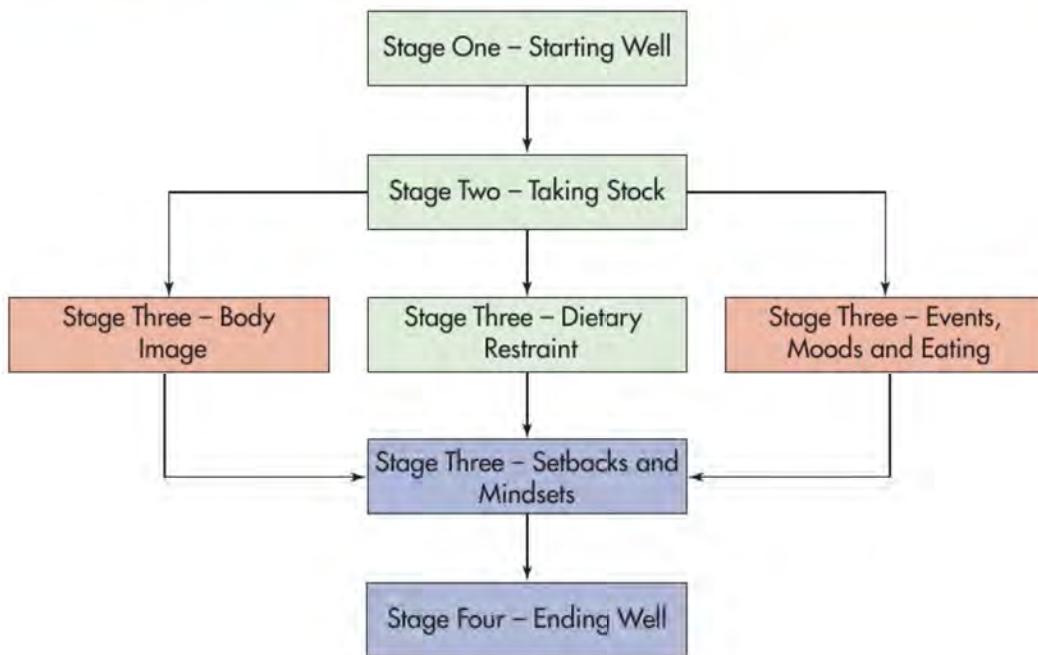
**ACTIVITY 2**

As you read through each stage in Table 23.1, make a note of aspects which you feel are a strength or a weakness, whether this type of therapy would suit all patients with AN, and what type of person you think would suit CBT-E best. Organise your thoughts into a table or brain-map.

When you have finished, share your thoughts with a partner. Discuss and score drug therapy and CBT-E out of ten, for practical and ethical issues. Do you both agree?

TABLE 23.1: THE FOUR STAGES OF ENHANCED COGNITIVE BEHAVIOURAL THERAPY (CBT-E)

Stage	Duration	Preparation for treatment and change
1	Four weeks, with two sessions per week	<p>To encourage rapid change in the client's behaviour; two important procedures are implemented in this phase:</p> <ul style="list-style-type: none"> <li>• weekly weighing with the therapist</li> <li>• regular eating; help to develop healthy eating habits.</li> </ul> <p>Clients are educated about the disorder, including explaining the risks of malnutrition and low body weight and providing information about good nutrition.</p> <p>They will also learn about the treatment programme so that they know what to expect, e.g. they will have to complete homework activities between sessions, including monitoring daily intake and associated thoughts and feelings, putting into practice advice and skills taught during sessions.</p> <p>Together with the therapist, the person with AN will be helped to set goals, so that progress can be monitored over the coming weeks.</p> <p>It is important during this first stage that the patient is positive about the treatment and motivated to progress because the therapy will only be effective if they are willing to make the necessary changes.</p>
2	Two sessions, one week apart	<p>The therapist and the person with AN will meet to discuss the progress made in stage one; good progress can be praised to boost motivation, poor progress can be discussed to uncover possible reasons for why things are not going well.</p> <p>Together the therapist and person with AN will create a personalised treatment plan focusing on any factors which have maintained the person's eating problems. The plan can be modified at any point.</p>
3	Eight sessions, once a week	<p>This is the main stage of the treatment phase where the person with AN usually has to tackle the factors involved in maintaining their eating disorder. This will involve dealing with issues relating to body image, dietary rules, and any event-related changes in eating.</p> <p>Issues relating to body image will be managed through behaviours likely to lead to body dissatisfaction, such as constant body checking, as well as the triggers that make the person 'feel fat'.</p> <p>Dietary rules are explored to consider the impact that rigid and restrictive rules are having on the client's quality of life, and any foods they currently avoid are gradually introduced to the diet.</p> <p>It is also important that external events that impact on major changes in eating are considered and tackled at this stage in treatment.</p> <p>The therapist may use techniques such as <i>cognitive restructuring</i>, to help the person to change irrational beliefs about eating and food to become more objective and logical. They may challenge the person to test their beliefs between sessions in behavioural experiments.</p>
4	Three sessions, about two weeks apart	<p>Clients are encouraged to look to the future and consider factors that need to be managed to prevent relapse. The therapist and person with AN will draw up an agreed plan that is personalised for their specific circumstances. Individuals are also encouraged to consider their mindset so that they do not see any relapse as 'failure', and instead think of it as a 'lapse' that they can address. A post-treatment review appointment will then be made about five months later where the individual will be able to discuss any setbacks or issues.</p>



► Figure 23.1 The CBT-E map – a visual representation of the four stages on CBT-E, a psychological treatment for anorexia nervosa. Which stage do you think the person with anorexia nervosa would find the most difficult or the most enjoyable? What about the therapist?

## EVALUATION

CBT-E is an evidence-based therapy, meaning it has been tested in various studies and consistently shown superior outcomes in comparison with control groups. The therapy is effective with adults from a variety of cultures including the UK, Australia, Denmark, Italy and the United States and also with young people (Dalle Grave et al., 2013). When CBT-E is delivered by well-trained therapists about two-thirds of people make a full recovery and results are maintained over time. However, this statistic applies only to people who are not significantly underweight although significant improvements can also be made by people with severe symptoms. However, this group is less likely to complete the full treatment programme.

Kathleen Pike and colleagues (2003) compared the effectiveness of CBT and nutritional counselling as outpatient treatments given to people with anorexia nervosa following hospitalisation. In the 33 patients followed by the researchers, the relapse rates of those receiving CBT was considerably lower (22 per cent) than those receiving nutritional counselling (73 per cent). Susan Byrne and colleagues (2011) considered the effectiveness of CBT-E in treating patients with the full range of eating disorders in an outpatient clinic in Australia. They found that two-thirds of patients in the treatment group showed significant improvement in symptoms both in relation to eating behaviour and also other general psychopathology. Christopher Fairburn and colleagues (2015) have also demonstrated the superiority of CBT-E in comparison with interpersonal psychotherapy (IPT) while Stig Poulsen and colleagues (2014) found that CBT-E was more effective than 100 hours of psychoanalytic therapy.

One possible issue related to the use of CBT-E is that the client has to be motivated to change, so this is a form of therapy that will not be effective for everyone. The initial stage of the treatment, however, does allow for the client to spend time learning about their disorder before they enter the full treatment phase so it will be important that the therapist recognises signs that the patient is not yet ready. The benefit of any form of CBT is that it is flexible and can be adapted to suit the needs of the patient. For example, there is a version of CBT-E that is designed specifically for patients with extremely low body weight. The most commonly used form of CBT-E is only effective for patients with anorexia nervosa whose eating disorder is not maintained by clinical perfectionism, low self-esteem or interpersonal problems. However, there are other forms of CBT-E that can be used with these patient groups and this can be identified early on in the treatment process.

The strategies taught in CBT-E are probably more suited to treating older patients with anorexia nervosa who have more opportunity to access treatment independently and who may be living away from their family. The strategies are designed to enable the patient to take control and monitor their own thinking and behaviour. For patients who still live at home, family therapy may be more effective as it deals with the effects that anorexia nervosa can have on the family, not just the individual.

**CHECKPOINT**

1. What are the three main symptoms of anorexia nervosa?
2. What are the two subtypes of anorexia nervosa?
3. What is the BMI quoted in the ICD-11 that would mean someone was classified as underweight?
4. What does the EPHX2 gene code for and why is this a candidate gene for anorexia nervosa?
5. Which two words did Bandura (1977) use to explain why some behaviours are imitated and not others?
6. How do the findings of Hoek et al. (2005) in Curacao differ from those of Becker et al. (2002) in Fiji?
7. Why are drug treatments not recommended as a primary treatment for anorexia nervosa?
8. Which drugs were better than placebos in increasing weight gain?
9. What happens in stage 2 of CBT-E?
10. Who might not benefit from CBT-E?

**SKILLS**

ANALYSIS, CRITICAL THINKING,  
REASONING

**EXAM PRACTICE**

1. Explain one strength of one biological explanation for your chosen disorder. (2 marks)
2. Describe one non-biological explanation for your chosen mental health disorder. (4 marks)
3. Zainab is a cognitive behavioural therapist. She is designing a study to assess the effectiveness of CBT for treating people with your chosen mental health disorder.
  - a) Suggest one way that Zainab could collect quantitative data in her study and one way that she could collect qualitative data? (4 marks)
  - b) To get ideas for her research, Zainab looks at an online forum where people have posted comments about their experiences of CBT; she decides to analyse some of the qualitative data that she finds there. Suggest one way that Zainab could analyse the online comments about CBT. (2 marks)
4. In your studies of Clinical psychology, you will have learned about one of the following mental health disorders:
  - unipolar depression
  - anorexia nervosa.Assess the effectiveness of drug therapy as a treatment for your chosen disorder. (16 marks)

# CHAPTER 24 STUDIES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- one classic study: Rosenhan (1973) 'On being sane in insane places'
- one contemporary study relating to schizophrenia: Suzuki et al. (2014) 'High prevalence of underweight and undernutrition in Japanese inpatients with schizophrenia'
- a choice of one of the two optional contemporary studies for your chosen 'other' disorder:
  - unipolar depression:
    - Hans and Hiller (2013) 'Effectiveness of and drop out from outpatient cognitive-behavioural therapy for adult unipolar depression: A meta-analysis of nonrandomised effectiveness studies'
    - Ma, Quan and Liu (2014) 'Mediating effect of social support on the relationship between self-evaluation and depression'
  - anorexia nervosa:
    - Becker et al. (2002) 'Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls'
    - Reichel et al. (2014) "Glass fairies" and "bone children": Adolescents and young adults with anorexia nervosa show positive reactions towards extremely emaciated body pictures measured by the body startle reflex paradigm'.

## KEY TERM

**lived experience:** unique insight gained through first-hand/direct experience of a certain set of personal circumstances

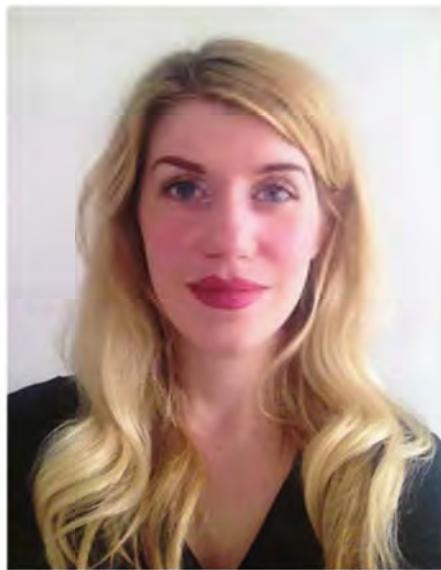


▲ Does exposure to television change attitudes to eating?

## GETTING STARTED

Dr Eleanor Longden began hearing a voice when she was a university student. The voice said things like 'She is leaving the room' and 'She is going to the library'. Initially, she found the voice strange but reassuring. Over time the number of voices increased and they became malicious and aggressive. Eleanor was eventually diagnosed with schizophrenia and admitted to hospital on multiple occasions. In 2013, she presented a candid TED talk about her experiences. She now works at a schizophrenia research centre (the Psychosis Research Unit) in Manchester, in northern England. This centre employs many researchers with **lived experience** of schizophrenia as part of their sustained effort to conduct research which helps reduce distress and restore autonomy and dignity for people who hear voices.

- How do you think lived-experience improves the quality of the research conducted at the Psychosis Research Unit, Manchester?
- Could there be any disadvantages – for the research, the researchers or the participants?



▲ Dr Eleanor Longden developed schizophrenia while she was at university in the United Kingdom



▲ David Rosenhan believed that madness was a sane reaction to insane circumstances. What do you think he meant by this?

## CLASSIC STUDY

### ROSENHAN (1973) ON BEING SANE IN INSANE PLACES

#### Background

David Rosenhan (1973) was inspired by the **antipsychiatry movement** led by Scottish psychiatrist, R.D. Laing. This was a group of people in America who questioned the authority of psychiatric institutions. They campaigned for change and argued that the current medical model stigmatised already vulnerable people. They demanded a more humane approach and rejected the **medical model**. Instead they believed that practitioners should focus less on the individual factors as the source of a person's symptoms and more on the social context in which those symptoms arise. Psychiatric labels such as 'schizophrenia' were not seen as illnesses with biological causes but as 'social constructs' or labels created by the more powerful people in society to control the behaviour of those who did not fit in with social and cultural norms.

Rosenhan believed that psychiatrists have a tendency to perceive many behaviours as indicators of underlying disorders rather than typical reactions to unusually difficult circumstances. To this end, he believed psychiatric diagnosis was invalid and could be harmful and misleading.

#### LINK

Participant observation was explored in Student book 1, page 260.

#### Aim

Rosenhan aimed to show that psychiatrists are unable to tell the difference between people with genuine psychological symptoms and those who say they have these symptoms but do not. He also aimed to investigate interactions between staff and patients.

#### Method/design

This study was a covert participant observation in a naturalistic setting.

#### Sample

The sample included duty psychiatrists, nurses and other staff at 11 state-run public hospitals and one private hospital. The hospitals were located in five states on the east and west coasts of the United States. Some were old and shabby, while others were newer. Some were understaffed and some had good staff-to-patient ratios.

#### Procedure

Eight **pseudopatients** (three women and five men, one of whom was Rosenhan) telephoned one of the hospitals for an appointment. When they arrived they told the staff they were hearing a voice saying 'empty', 'hollow' and 'thud'. The voice was described as unclear, unfamiliar and the same gender as the patient. These words were chosen to reflect potential concerns in the pseudopatients about the meaninglessness of their existence. Research in this area contained no mention of existential crisis as a cause of psychosis which should have made the doctors more cautious about their diagnosis.

Following admission, all pseudopatients were friendly and cooperative. They behaved normally and answered questions truthfully, e.g. if asked they said they were no longer hearing voices. They did however collect data in the form of handwritten notes about their observations of hospital life and the behaviour of other patients and staff. Initially this was done covertly but as none of the staff seemed interested, the pseudopatients began making notes more publicly.

#### KEY TERMS

**antipsychiatry movement:**

a group of intellectuals who rejected biological labels, explanations and treatments for mental disorders; the group began challenging the power dynamic between psychiatrists and patients; these ideas were popularised from the 1960s onwards

**medical model:** the biological approach to understanding and treating abnormal behaviour through identifying symptoms and making specific diagnoses, which lead to biological treatments such as the use of drugs or surgery

**pseudopatients:** people who pretended to be hearing voices to gain admission to mental health hospitals

None of the pseudopatients had any history of mental health problems. They all used false names to avoid future consequences. The majority worked in psychology and/or health care so they also gave false jobs to avoid suspicion. Jobs included a psychology graduate student, psychologists, a psychiatrist and a paediatrician. The remaining two were a housewife and a painter.

### Results

All of the state hospitals admitted the pseudopatients with a diagnosis of schizophrenia. The pseudopatient who was admitted to a private hospital was diagnosed with 'manic-depressive psychosis'. When the pseudopatients finally convinced staff that they had recovered, their discharge notes used the term 'schizophrenia in remission'. Their average hospital stay was 19 days, with a range of between 7 and 52 days.

Although hospital staff never detected the researchers' sanity, 35 of 118 patients in three of the hospitals were more suspicious. For example, one patient shouted, 'You're not crazy. You're a journalist, or a professor. You're checking up on the hospital.' Conversely, staff frequently pathologised the researcher's normal behaviour, meaning they interpreted it as a symptom of schizophrenia. For example, pacing the corridors due to boredom was interpreted as nervousness.

Rosenhan used the term 'depersonalisation' to describe how the patients were treated by the staff. For example, when patients tried to interact with nurses, the most common response was to be ignored (71 per cent), eye contact was rare (23 per cent) and verbal interaction even more so (2 per cent). In addition to this, 185 reasonable questions directed towards the senior medical staff were ignored. This was indicative of the general lack of respect shown to the patients, who were also occasionally mistreated. Drugs were administered but whether the patients took them was not monitored; many did not.

#### LINK

See pages 345–346 on the HCPC guidelines for practitioners, and pages 347–352 on evaluation of research in clinical psychology.

### Follow-up studies

One hospital that heard about the findings, asked Rosenhan to include their hospital in his sample. It was thought that their staff would be able to identify pseudopatients from genuine cases. Hospital staff rated everyone who presented to the admission office on a scale one to ten, to indicate how confident they were that the person was a pseudopatient. The result was that 193 patients were admitted throughout the next three months: 41 were confidently identified as pseudopatients by at least one staff member, 23 by a psychiatrist and 19 by a psychiatrist and one other member of staff. Rosenhan had not sent any pseudopatients to the hospital.

Rosenhan believed depersonalisation and segregation of patients and staff were a product of the social context. He conducted another small-scale study to test this. Confederates acting as members of the public attempted to engage in conversation with members of staff in the grounds of a university and results were compared with pseudopatients who attempted to engage with hospital staff. At the university, the confederates were consistently treated with courtesy; all senior staff stopped and talked, whereas this was only the case for 4 per cent of psychiatrists approached in the hospitals.

### Conclusion

Rosenhan concluded that psychiatrists are unable to distinguish between 'sane and insane' even when they have had prolonged opportunity to observe patients within the hospital context. In fact, he concluded that this context added to the psychiatrists' distorted perception; once labelled/diagnosed, normal behaviours were seen as abnormal. Staff behaviour led to a sense of depersonalisation and segregation which can create a self-fulfilling prophecy. Rosenhan

suggested that an approach that increases contact time between staff and patients, and moves away from diagnostic labels and towards helping people to solve problems that are causing their distress, may be more beneficial. Overall, he concluded that most hospital staff are not intentionally callous or malicious and their perception and behaviours are also shaped by the hospital setting.

### Evaluation

A strength of Rosenhan's study is the diversity of different hospitals used, from old to new, private to public, and east to west coast location. This is important as it means that the findings regarding the validity of diagnosis can be generalised with greater confidence and that negative treatment of patients was widespread and not restricted to one hospital or state. This said, the generalisability is limited by the fact that the pseudopatients only presented with hearing voices, and it is possible that psychiatrists may have been more hesitant to admit people with other types of mental disorder. Also, the study was conducted in the United States in the 1970s, suggesting that the findings may be ethnocentric. For example, treatment of patients in cultures in which the medical model is not the primary way of understanding well-being may understand and treat psychosis differently, suggesting Rosenhan's findings about hospital life may not apply to many majority cultures.

### THINKING LIKE A PSYCHOLOGIST

To extend your knowledge you may find it interesting to research holistic models of health and well-being, for example *te whare tapa whā* from Maori culture (Taitimu et al., 2018).

Indigenous models of health often incorporate elements relating to family, ancestors and connection with the land. To deliver the most effective and equitable services, psychologists require deep cultural awareness and sensitivity. Exploring such models will help you to deepen your understanding of alternatives to the medical model. It also shows that people can simultaneously hold and refer to multiple models of health.

A further strength is that Rosenhan's team of researchers (pseudopatients) followed a standardised procedure up to the point at which they were admitted. They were told exactly what they should say and how to answer questions about the nature of the voices that they were hearing. This meant that every psychiatrist was faced with the exact same information upon which to make their diagnosis, strengthening the validity of the findings. The procedure was also replicable as demonstrated by journalist Lauren Slater (2005), who presented at nine psychiatric emergency wards reporting the exact same issue. She says she was consistently diagnosed with psychotic depression and prescribed a variety of medications. This replication suggests that Rosenhan's claims had temporal validity and were not era-bound, despite changes made to the DSM since version II, which was used in the original study.

This said, Slater's findings provoked heavy criticism, not least by Robert Spitzer (2005), who was responsible for the development of DSM-III. He sent a detailed summary of her findings to 431 psychiatrists with a short questionnaire. Of 74 responses, only 6 per cent said they would have diagnosed psychotic depression; 82 per cent would not have admitted her to the hospital, suggesting **outpatient care** as an alternative. Only a third said they would prescribe medication. This suggests that the claim that diagnostic labelling is driven by the desire to prescribe is unfounded and challenges the reliability of Slater's claims, since the psychiatrists' self-reports are inconsistent with Slater's observations. Spitzer (2005) claims both the work of both Rosenhan and Slater is flawed and sensationalist, and causes harm through undermining public confidence in psychiatry.

A weakness of Rosenhan's study is that there is evidence to suggest that he failed to report all of the data that was collected. A ninth pseudopatient, Harry Lando, was also diagnosed with schizophrenia but described his 19-day admission as 'extremely favourable'. While Rosenhan

### KEY TERM

**outpatient care:** hospital treatment and/or support that does not require the patient to be admitted (stay overnight)

reported that staff spent an average of only 6.8 minutes a day with patients, Lando said patients and staff were engaged for at least an hour a day in activities such as group and drama therapy, watching television/playing cards. He noted that patients were respected and listened to by caring and attentive staff. This suggests that Rosenhan's data are highly subjective and Lando's account seriously detracts from the credibility of Rosenhan's claims.

## CONTEMPORARY STUDIES: SCHIZOPHRENIA

In this section you will read about five contemporary studies. You must prepare to answer questions on Suzuki et al. (2014) in your Paper 4 exam. However, you only need to prepare to answer questions on one of the studies on your chosen disorder (e.g. unipolar depression or anorexia nervosa). Having a good working knowledge of both studies for your chosen disorder could be helpful if you are asked to evaluate explanations of your chosen disorder.

### SUZUKI ET AL. (2014)

Suzuki et al. (2014) examined the prevalence of low body weight and poor nutrition in Japanese inpatients with schizophrenia.

#### Background

Prolonged use of antipsychotics is associated with significant weight gain, meaning people with schizophrenia are at greater risk of obesity and associated health problems such as high blood pressure. In fact, life expectancy is 15 years shorter in people with schizophrenia than the general population with 50–75 per cent dying of heart disease (Hennekens et al., 2005). However, this data only refers to people in North America and Europe where being overweight or obese is also more common in the general population than it is in East Asian countries such as Japan.

In contrast with the West, people with schizophrenia in Japan are more likely to be underweight than overweight but this too can lead to a variety of serious medical concerns. Research focusing on nutrition and health in psychiatric patients is scarce in Japan and differences may be linked to differing treatment plans. For example, hospital admissions are considerably longer in Japan compared with the West and 67 per cent of all inpatients remain in hospital for more than 12 months; 60 per cent of these people have schizophrenia or delusional disorder.

#### Aim

To investigate prevalence of obesity or being underweight and collect other laboratory data from Japanese inpatients with schizophrenia.

#### Method/design

Cross-sectional study; participants were grouped by health status (patient with schizophrenia versus healthy control) and BMI (underweight, standard, overweight).

#### Sample

In the sample, 333 inpatients with schizophrenia (diagnosed using DSM-IV-TR) aged 18–60 years were compared with 191 age- and sex-matched healthy volunteers. Patients were selected from nine hospitals in Niigata, on the west coast of Honshu, Japan. All participants were free from physical illnesses and had not changed drug treatment in the last four weeks. Other than medication for schizophrenia, none were taking any drugs other than benzodiazepines (drugs used to treat anxiety disorders) and mood stabilisers.

#### Procedure

Body mass index (BMI) was calculated for every participant by dividing their weight (in kilograms) by their squared height (in metres). The BMIs were used to sort them into three groups: overweight/obese (25 or more), standard weight (more than 18 but less than 25) or underweight (less than 18). Blood samples were taken following an overnight fast, meaning

#### LINK

For more on cross-sectional studies see page 77.

participants had not eaten for at least nine hours. This was used to determine whether participants had:

- hypoproteinemia; total protein (TP) levels below 6.7 g/dL
- hypoglycemia; fasting plasma glucose (FPG) levels below 70 mg/dL
- hypocholesterolemia; total cholesterol (TC) levels below 150 mg/dL
- hypotriglyceridemia; total triglyceride (TG) levels below 50 mg/dL.

### MATHS TIP

Always be careful when you are quoting units. In this study units are either in grams per deci-litre or milligrams per deci-litre. Think about the following: Sōma is 1.72 metres tall and weighs 75 kilos. He has TP of 5.4g/dL, FPG of 72 mg/dL, HC of 100 mg/dL and TG of 60 mg/dL. What is his BMI (to two decimal places) and which category would he fall into – underweight, standard or overweight? Which conditions, if any, would the researchers have diagnosed from these scores? Why might the researcher be particularly concerned about Sōma's health?

First take his height and square it:  $1.72 \times 1.72 = 2.9584$

Divide his weight by his height squared:  $75 / 2.9584 = 25.3515414$

Now work out BMI to two decimal places: 25.35

Now work out his weight category based on his BMI: 25.35 is greater than 18 so he is not underweight; however, 25.35 is just over 25 meaning he is overweight but only just.

Now look carefully at each of his blood test results:

- TP (5.4 g/dL) is less than 6.7 g/dL so he has hypoproteinemia
- FPG (72 mg/dL) is more than 80 mg/dL so he doesn't have hypoglycemia
- HC (100 mg/dL) is much less than 150 mg/dL so he has severe hypocholesterolemia; this is very concerning as he is at high risk of cerebral haemorrhage
- TG (60 mg/dL) is more than 50 mg/dL so he doesn't have hypotriglyceridemia.

### LINK

For more about the ethical considerations in this study see page 352.

### Results

There was a significant difference between people with and without schizophrenia in all three BMI categories ( $p < 0.001$ ). Being underweight was more common in people with schizophrenia than healthy controls ( $p < 0.001$ ) – see Table 24.1.

TABLE 24.1: PERCENTAGES OF THE SCHIZOPHRENIA VERSUS CONTROL GROUP IN EACH WEIGHT CATEGORY

	People with schizophrenia	Control group
Overweight/obesity (BMI $\geq 25$ )	26.7	22.0
Standard weight (BMI $\geq 18.5$ to $< 25$ )	59.2	73.8
Underweight (BMI $< 18.5$ )	14.1	4.2

People with schizophrenia were significantly more likely to have hypoproteinemia (low levels of protein) and hypocholesterolemia (low levels of cholesterol). FPG was also significantly lower in the schizophrenia group than the control but there was no difference in hypoglycemia. Hypotriglyceridemia (low levels of a certain type of fat) was significantly more common in people with schizophrenia who were underweight than those who were standard weight or overweight.

**MATHS TIP**

Remember when looking at p values, p means the probability of obtaining your observed result if the null hypothesis were true, i.e. if there is no difference in the average BMI of patients versus non-patients. In this case, the p value is very low (less than 0.001). If you want to convert 0.001 into a percentage, simply, multiply it by 100 to give 0.1%. This means there is 1 in a 1000 chance of obtaining these results if the null hypothesis is true. We cannot say that we have 'proved' the experimental hypotheses, but the improbability of the results under the null hypothesis suggests this statement can be rejected.

**LINK**

To remind yourself about probability and levels of significance see Student Book 1, page 113.

**MATHS TIP**

What statistical test do you think Suzuki et al. used to determine whether their findings were significant?

- First, were they looking for an association or a difference?
- What level of measurement was the data?
- Which design was used?

First, they were looking for a difference in the nutritional status of people with and without schizophrenia and of different BMIs. Secondly, the data was nominal as they were put into categories for their BMI – underweight, standard or overweight. The measures of the dependent variables were also nominal as the researchers used the actual grams or milligrams per decilitre to determine whether they did or did not have each of the four conditions. Finally, the design was independent of measures as participants could not be in more than one group for weight or diagnosis (e.g. they either had hypoproteinemia or they didn't). So the correct test based on these answers is the chi-squared. This was used to determine whether each nutritional problems was more common than you could expect by chance alone in any one of the six groups (three weight groups × 2 diagnosis groups (schizophrenia versus healthy control)).

## Conclusions

Being underweight is significantly more common in Japanese inpatients with schizophrenia than the general population. Issues associated with being underweight including low levels of protein and different types of fat and cholesterol should be monitored to avoid further health problems. This is because conditions like hypocholesterolemia means people are at high risk of cerebral haemorrhage. Also, being underweight is associated with low bone density, meaning inpatients with schizophrenia could be at higher risk of fractures and conditions such as osteoporosis.

## Evaluation

A strength of the findings of this study is that it corroborates findings from Yurinosuke Kitabayashi and colleagues (2006). They also found that being underweight was more common in patients with schizophrenia in Japan than the general population. This consistency between the results of two studies demonstrates that the findings are reliable, suggesting that these findings can be applied to different areas of Japan as Suszuki's study was conducted in Niigata in the North-West and Kitabayashi's study was conducted in Nara which is further south. This means that the findings are reliable and have good external validity. This said, the sample size

**KEY TERM**

**centrifuge:** a laboratory device that separates components of a liquid using rapid spinning, e.g. blood can be separated into plasma and the heavier blood cells

was fairly small ( $n = 333$ ) and the researcher states that they may not have been representative of the wider population of patients with schizophrenia as some had very short admissions, which is not typical in Japan.

A further strength was the use of quantitative data such as BMI which is objective and does not require interpretation by the researcher. Also, the cut-off points to decide whether a person had a nutrient deficiency also made these measures more objective which helps improve the credibility of the results. Further evidence to support the objectivity of the findings is that Suzuki et al. used standardised scientific procedures to conduct the blood tests, e.g. using a **centrifuge** to collect plasma to test for glucose. Although the study has many objective aspects, the DSM-IV-TR was used to diagnose schizophrenia and this requires considerable clinical judgement as it is a difficult disorder to diagnose due to overlapping symptoms. This means that some of the patients may not have had schizophrenia due to the subjectivity of diagnosis. This ought to have been checked using inter-rater reliability, for example, or using other classification systems to check for concurrent validity, especially as the DSM is designed for use with American patients.

Further limitations include the fact that although the researcher collected data on participant variables, such as age, they did not record other relevant variables such as exercise or eating behaviours. For example, it is unclear why patients were underweight, e.g. was this a consequence of low appetite or due to inability to absorb nutrients from their food? Both of these may be side-effects of antipsychotic medication. As exercise was not recorded it is possible that the inpatient groups did more exercise as a way of passing the time.

Another interesting control group might have been outpatients with schizophrenia who were taking a similar range of antipsychotics, as this may have provided more insight into why the inpatients were more likely to be underweight compared with the general population, given the usual side-effects of antipsychotics (e.g. weight gain). Gaining a wider range of demographic data and including additional control groups could have increased internal validity and helped establish reasons for the differences in weight and nutritional status.

Another limitation was the cross-sectional design. If the researchers had conducted a longitudinal study they could have monitored changes in weight over time to see whether patients lost weight throughout their hospital admission and whether this varied depending on how long they had been taking different combinations and dosage of antipsychotic drugs. This would have allowed the researchers to gain more detailed insight into the variables affecting weight and nutritional status.

## CONTEMPORARY STUDIES: UNIPOLAR DEPRESSION

If you have chosen to study unipolar depression for your exam, you need to prepare for questions on either Hans and Hiller (2013) or Ma et al. (2014).

### HANS AND HILLER (2013)

Hans and Hiller is a meta-analysis which examines the effectiveness of and drop-out rates from outpatient cognitive behavioural therapy for adults with unipolar depression.

### Background

Previous meta-analyses of randomised controlled trials (RCTs) have supported cognitive behavioural therapy (CBT), a treatment for adults with depression (Cuijpers et al., 2008). This can be offered through individual or group treatments, however individual treatments seem to be more effective and lead to lower dropout rates. Research also suggests a **dose-response relationship**, meaning the more sessions a person attends, the better the overall outcomes. However, these RCTs typically measure **efficacy** rather than **effectiveness**, meaning what happens under ideal circumstances.

**LINK**

For more on cognitive behaviour therapy as a treatment for unipolar depression, see pages 297–300.

**LINK**

For more on randomised control trials (RCTs), see pages 338–342.

**LINK**

For more on meta-analysis as a research method see page 4.

In clinical practice, patients may have more complex needs, including comorbid disorders. RCTs exclude people with the most serious symptoms for their own safety. In clinical practice this could be as many as 76 per cent of patients (Stirman et al., 2003). Therapists are also highly trained, supervised and monitored. This ensures that CBT is delivered according to strict instruction manuals and therefore standardised as far as possible. In practice, therapists rarely use manuals. They adapt the therapy to meet their patients' needs and sometimes offer more sessions than would be available through a RCT. This study investigates the effectiveness of CBT in routine clinical practice.

**Aim**

The study aimed to assess the effectiveness of and drop-out rates for cognitive behavioural therapy (CBT) offered to adults diagnosed with unipolar depressive disorder in routine clinical practice. It also aimed to investigate differences between individual versus group CBT and dose-response relationships. Finally the researchers aimed to compare their findings with previous high quality RCTs in a process called 'benchmarking' (baselining).

**Method/design**

This was a meta-analysis of effectiveness studies.

**Sample**

The meta-analysis included 34 studies. All were non-randomised clinical trials representative of routine practice. All studies focused on face-to-face CBT for depressed adult outpatients. Efficacy studies were excluded. The researchers found 30 using electronic databases (e.g. MEDLINE and PsychINFO). Search terms included: community mental health centre, effectiveness, naturalistic, outpatient clinic and uncontrolled. Six more studies were found through asking experts to identify other relevant but unpublished or non-peer reviewed studies, e.g. dissertations.

Studies were included if patients:

- had a main diagnosis of major or minor depression or dysthymic disorder
- did not have other medical conditions or were elderly
- were allowed to continue taking medication
- were not randomised to different treatment/control groups
- were representative of a wider range of people seeking help for depression than are typically seen in RCTs.

Therapists needed to be:

- not monitored or given additional training
- professional and flexible in their approach.

In total, the studies included 1880 patients who completed treatment and 1629 patients who were intended to be treated; 68 per cent were women, with an average age of 38 years. Of those, 54 per cent were taking antidepressants.

**KEY TERM**

**intention-to-treat (ITT) analysis:** data is analysed even if the participant did not finish the treatment programme or did not engage with all aspects as this is more authentic to real-world situations

**Procedure**

Studies were coded to give an indication of their clinical representativeness and methodological quality. This included low drop-out rate (30 per cent), **intention-to-treat (ITT) analysis**, formal diagnostic investigation (i.e. whether diagnoses were checked), minimum sample size of 30 and minimum follow-up length of six months.

Effect sizes were calculated for end-of-treatment and six-month follow-up effects for depression severity. These were calculated separately for people who completed all therapy sessions and those who dropped out (called intention to treat). Effect sizes were also identified for completers for the following measures: dysfunctional cognitions, general anxiety, psychological distress and functional impairment. Mean drop-out is also reported. Researchers were sometimes contacted and, in two cases, extra data was supplied. Most no longer had access to the data, typically this is for ethical reasons.

Studies were grouped by effect size; e.g. small (0.2), moderate (0.5) or large (0.8). Studies with effect sizes that were outliers (i.e. more than three standard deviations from the mean) were rejected. Drop-out was defined as anyone who attended at least one session but did not attend the number advised by the therapist.

#### LINK

See page 78 for more on effect sizes.

A selection of suitable RCTs were chosen to provide a benchmark (baseline) for comparison of effect sizes for efficacy versus effectiveness studies. They were chosen from a database of 281 relevant studies (Cuijpers et al., 2010).

### Results

Table 24.2 shows the average number of sessions attended. Individual sessions lasted 50–60 minutes and group sessions were 90–120 minutes; 77 per cent of the studies had samples of 30 or more. Drop-out data was obtained for 68 per cent of studies. The mean drop-out rate was 24.63 per cent; range from 0 per cent to 68 per cent. Follow-up data was obtained for 29 per cent of studies, at least six months after the final treatment session.

TABLE 24.2: AVERAGE NUMBER OF SESSIONS ATTENDED

	Mean number of sessions attended (standard deviation in brackets)	
	Individual sessions	Group sessions
Completers	22 (12)	11 (4)
Non-completers (ITT data)	19 (11)	9 (2)

Effect sizes for improvement in depressive severity were large for both completers and non-completers (ITT samples). The average effect size for the completers was 0.75–2.03 with a mean effect size of 1.13. Moderate to large post-treatment effect sizes were also found for improvement in dysfunctional cognitions, general anxiety, psychological distress and functional impairment. ITT data also revealed a large effect size (1.06).

All effect sizes reached statistical significance ( $p < 0.001$ ). Post-treatment gains were maintained or even improved at 6 and 12 months after completion of therapy.

There was no significant difference between completers and ITT data for the effectiveness of individual compared with group CBT. However, failure to complete was worse in individual than group sessions.

The effect sizes were lower for individual and group CBT in clinical practice than the benchmark RCTs, even though patients received more sessions. In clinical practice, ITT data showed that people attended fewer group sessions than in RCTs. Dropout rates were also higher for individual CBT in clinical practice than RCTs, whereas group sessions were similar across both types of study.

### Conclusion

Although clinical practice patients showed less improvement in depressive symptoms than RCT patients, individual and group outpatient CBT can be effectively transported to routine clinical practice. The considerable treatment drop-out rate, especially in individual CBT, must

be improved. The small number of available studies and low quality of some reports stress the need for high-quality effectiveness studies.

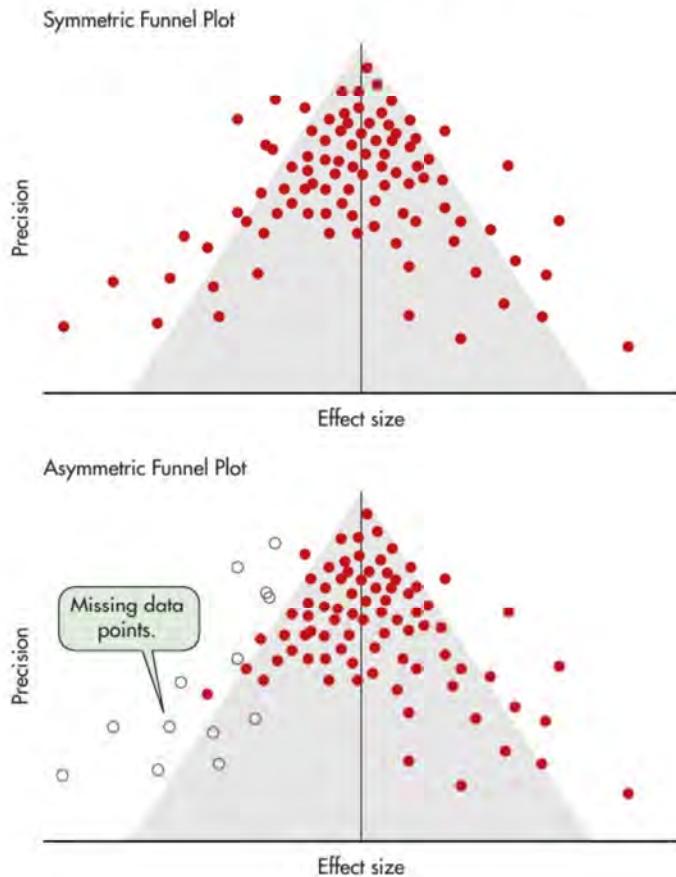
### Evaluation

A strength of this meta-analysis is that all studies were coded by the first and second author regarding clinical representativeness and methodological quality, based on key features of the samples and procedures. This coding was highly reliable as shown by near-perfect inter-rater reliability. There was just one of the criteria that was rated as fair (patient monitoring). When disagreement did arise, ratings were discussed until a consensus was reached. These ratings are very helpful in determining the credibility of the findings as they give an insight into the overall scientific status of the studies that were included.

### KEY TERM

**funnel plot:** a graph used to identify publication bias in a meta-analysis; effect size is plotted on the horizontal axis and sample size on the vertical axis. A symmetrical inverted funnel indicates no publication bias whereas an asymmetrical funnel indicates bias

Another strength is that the researchers used various ways to reduce and then identify publication bias. Firstly, the researchers asked experts to recommend unpublished and non-peer reviewed effectiveness studies such as dissertations and also non-peer reviewed studies which may not have appeared on the databases that they used. Also, they used **funnel plots**, a graphing technique (see Figure 24.1) to identify bias. Simply looking at the graph to detect symmetry can be subjective so they also used a statistical test to identify any potential publication bias. This increases the objectivity of the analysis. No evidence of publication bias was found for studies of completers. However, the data for the ITT group did show evidence of small-study bias, whereby studies with smaller samples tended to have higher effect sizes. This suggests that the overall effect size derived from the meta-analysis of ITT data may be exaggerated, i.e. those who drop out of therapy may not have such impressive outcomes as this meta-analysis suggests.



► Figure 24.1 Using funnel plots to identify publication bias. A symmetric graph indicates no bias (see top); an asymmetric plot indicates bias (see bottom)

A weakness of the study is that, despite attempting to only include effectiveness studies which represented routine clinical practice, some of the studies did not meet these criteria. For example, the delivery of therapy was meant to be flexible and therapists allowed to work more

independently. However, in 24 per cent of studies therapy was monitored either by extensive supervision of the therapist or formal adherence checks. This reduces the validity of the findings as in regular clinical practice therapists may be allowed more professional freedom and encouraged to tailor the treatments more to the client's specific needs, especially in multicultural settings, where a form of culturally-adapted CBT may be more appropriate in practice.

Another weakness is that diagnostic interviews and/or checklists were only used in 44 per cent of studies. In the remaining studies, there was no mention of a specific diagnostic instrument or diagnosis was based on clinical judgement alone. This is a weakness as it means that there is uncertainty around whether all of the participants in the study were actually suffering from a depressive disorder as their primary diagnosis. As anxiety and depression are often comorbid, it is possible that had their diagnosis been checked, some of the people in the sample may have received a different primary diagnosis such as an anxiety disorder. This therefore reduces the validity of the effects size for CBT as, by the time treatment was delivered, the primary diagnosis for some of the patients may have changed or been unreliable in the first place. This is one of the problems with using secondary data.

### MA, QUAN AND LIU (2014)

Ma et al. (2014) examines the mediating effect of social support on the relationship between self-evaluation and depression.

#### Background

Previous research has found a negative correlation between self-evaluation and depression. Negative beliefs about the self may be a causal factor in depression, help to maintain the disorder and/or trigger relapse (De Raedt et al., 2006). Another factor which may mediate this relationship is actual and/or perceived social support (the belief that one is cared for) which may be a protective factor. How these three factors interact is unclear and most research only focused on two of the three factors at a time.

#### Aim

To investigate how self-evaluation influences depression and whether social support is a mediating factor in this relationship. Ze-Wei Ma and colleagues (2014) predicted:

- a negative relationship between core self-evaluation and depression
- a positive relationship between perceived social support and core self-evaluation
- that social support will mediate the relationship between core self-evaluation and depression.

#### LINK

See page 365 for more on correlational research and questionnaires.

#### Method/design

The method was correlational research and self-report surveys were used to collect the quantitative, primary data.

#### Sample

A volunteer sample of 538 university students (281 women and 257 men). The mean age was 19.4 years.

#### Procedure

All participants completed three self-report questionnaires online using a hyperlink shared in online forums:

1. The Core Self-Evaluation Scale (CSES) (Judge, Erez, Bono and Thoresen, 2003). This 12-item scale includes items relating to self-esteem, self-efficacy, neuroticism and locus of control. Items are rated on five-point Likert scales (1 = strongly disagree to 5 = strongly agree).
2. The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet and Farley, 1988). This is also a 12-item scale including items to measure perception of

social support from family, friends and significant others. Items are rated on seven-point Likert scales, (1 = very strongly disagree to 7 = very strongly agree).

- The Zung Self-Rating Depression Scale (SDS) (Zung, 1965). This is a 20-item scale using four-point ranked scales (1 = a little of the time to 4 = most of the time). The first 10 items are reverse scored (which means that the scores run in the opposite direction and helps ensure that participants think about their answers).

## SKILLS

CONTINUOUS LEARNING, SELF-DIRECTION, CRITICAL THINKING

### ACTIVITY 1

Search for copies of these three questionnaires online. Pick out two questions from each that you think might be difficult to answer in a way that is valid. Write the examples into your revision notes as they might be helpful when evaluating this study. Also, think about how you might reword the items to improve the validity.

Time allowed to complete surveys was unlimited. Researchers checked to ensure participants submitted the questionnaires more than once from the same IP address.

### Results

As predicted, core self-evaluation correlated negatively with depression ( $-0.64$ ) and positively with perceived social support of family, friends and significant others. The researchers found that social support was a mediating factor; however this effect was only partial. This is because, when social support was taken into consideration, the strength of the correlation between self-evaluation and depression decreased to  $-0.46$ . However, this was still statistically significant showing that although social support does have a mediating role, with a strength of  $-0.18$  it is only partial as the relationship between self-evaluation and depression does not disappear completely when social support is taken into consideration. See Table 24.3 for correlation coefficients for each of the measured variables.

TABLE 24.3: CORRELATION OF CORE SELF-EVALUATION, DEPRESSION AND PERCEIVED SOCIAL SUPPORT, INCLUDING FAMILY, FRIENDS AND SIGNIFICANT OTHERS

	1	2	3	4	5	6
1. Core self-evaluation	1					
2. Depression	$-.636^*$	1				
3. Perceived social support	$.365^*$	$-.375^*$	1			
4. Family	$.287^*$	$-.318^*$	$.838^*$	1		
5. Friends	$.360^*$	$-.349^*$	$.830^*$	$.492^*$	1	
6. Significant others	$.296^*$	$-.300^*$	$.899^*$	$.633^*$	$.670^*$	1

Note. \* $p < .01$ .

### Conclusions

Social support partially mediates the relationship between self-evaluation and depression, possibly because more positive self-evaluation helps people to seek social support more easily which then protects them from depression. People with negative self-evaluation find it more difficult to seek support. Lower levels of social support then leave them prone to depression.

### Evaluation

A strength of using correlational research to investigate this topic is that it does not require any artificial manipulation of variables which would be impossible ethically in a study investigating core self-evaluation, social support and depression. This means the researchers were able to collect credible data via the self-reports about people's real experiences

**KEY TERM**

**Cronbach's alpha:** a statistical measure which allows the researcher to establish internal reliability, or the extent to which different items within a questionnaire, for example, are measuring the same underlying construct/variable

regarding support from friends and family, self-esteem and self-efficacy, and a range of physical, cognitive and emotional symptoms of depression. However, correlational research means that the researchers are unable to establish causation; even though the study points to the role of social support as a mediator of depression, the researchers cannot claim that absence of perceived social support is a cause of depression, without controlling for the effect of confounding variables.

Further strengths of the study include the fact that all three questionnaires have been tested for reliability using **Cronbach's alpha**. For example, Esmaeil Hashemi (2011) found significant correlations between the individual items in the CSES suggesting that it has high internal reliability (+0.82). He also found that there was a significant correlation between the CSES and self-esteem (Rosenberg, 1965) suggesting that the scale has strong concurrent validity. A weakness, however, of this use of this scale is that item 2 is 'Sometimes I feel depressed' which helps explain the correlation with the measure of depression.

A further strength is that the sample size was relatively large at 538, meaning the statistical power of the tests should be high. However, the sample only included undergraduate students from mainland China, meaning the data is ethnocentric and may not be representative of people of different ages, or educational background, within or outside China.

A weakness of all of the measures is that all rely on self-reports. People may not be honest when reporting attitudes towards social support, as they may feel that negative responses would reflect badly on their family. This means the results may be subject to social desirability bias. This may be more evident in collectivist cultures where loyalty to ingroups is highly valued. Likewise, some of the items in the CSES may not be valid in collectivist cultures. For example, 'I determine what will happen in my life' may lack cultural relevance in cultures which emphasise the role of external/situational factors as key determinants of behaviour rather than dispositional factors.

Research suggests that social support may help to protect people from developing depression, but it is difficult to collect objective data on this variable. Why is this?



## CONTEMPORARY STUDY: ANOREXIA NERVOSA

If you have chosen to study anorexia nervosa for your exam, you need to prepare for questions on either Becker et al. (2002) or Reichel et al. (2014).

### BECKER ET AL. (2002) 'EATING BEHAVIOURS AND ATTITUDES FOLLOWING PROLONGED EXPOSURE TO TELEVISION AMONG ETHNIC FIJIAN ADOLESCENT GIRLS'

#### Background

A greater prevalence of eating disorders in minority cultures compared with majority cultures suggests that culture can be an important risk or protective factor depending on where in the world you live. The validity of existing studies linking western media exposure and eating disorders is limited as they were conducted in cultures where such disorders are highly prevalent and media consumption is also high. This **prospective research** took place in a culture with no prior television experience.

#### Aim

To investigate the influence of prolonged exposure to western television on attitudes towards eating and eating behaviour in adolescent girls in Fiji. Television had only been recently introduced in this culture. Research questions included:

- whether television exposure might encourage disordered eating even in a culture which supports 'robust appetites and body shapes' and discourages exercise and dieting for weight loss (Becker et al., 2002, page 509)
- whether disordered eating in Fijian girls would be associated with body dissatisfaction as it is in minority cultures
- whether disordered attitudes towards eating might mediate the association between media exposure and disordered eating.

#### Method/design

Cross-sectional study comparing two groups of girls before and after television exposure.

#### THINKING LIKE A PSYCHOLOGIST

The researchers refer to the study as both a cross-sectional study and a 'naturalistic experiment'. Naturalistic experiments have an independent variable but it is not manipulated by the researcher. It is something which varies in everyday life. In this case, the two levels of the independent variable are before and after exposure to television. The researchers did not install the satellite dishes that allowed the islanders to receive this channel. This was a naturally occurring change in Fijian culture which the researchers decided to study. This lack of control of the independent variable is a threat to internal validity and reduces the ability to claim that TV exposure caused the changes in eating attitudes and behaviour. Can you think of any factors which might explain these changes but also explain why Fiji decided it was time to introduce western TV?

#### Sample

Fiji was selected as, before television was introduced to the island, there had only been one documented case of anorexia nervosa in the mid-1990s. All participants were English-speaking girls from two secondary schools in Nadroga province. Data was collected from the first cohort ( $n = 63$ , mean age 17.3) in 1995, within a month of the television being introduced. Their data was compared to that of a group of girls from the same schools ( $n = 65$ , mean age 16.9) collected in 1998, after three years of television exposure.

#### Procedure

A 26-item eating attitudes test (EAT-26, Garner et al., 1982) was used to collect quantitative data, including questions about bingeing and purging. Scores over 20 were classed as high.

Participants were asked whether they had a television at home and if so often they watched it. The 1998 version of the questionnaire also asked about:

- body image, e.g. would it bother you if you were too thin/heavy?
- dieting, e.g. do you ever think that you should eat less?
- differences in attitudes between participants and their parents regarding diet and weight, e.g. do your parents or family ever say that you should eat more?

Semi-structured interviews were conducted with girls in both cohorts whose EAT-26 scores suggested disordered eating behaviours. This allowed them to check that vomiting was induced to control weight, for example. In 1998, 30 girls with disordered eating attitudes and behaviour were interviewed and asked open questions such as, 'What do you think about American TV?' and closed questions such as, 'Do you admire any characters on TV?' and 'Do you ever wish you could be more like them?'. The interviews were audio-taped, transcribed and analysed using thematic content analysis.

## Results

### Quantitative data

Age and BMI did not differ significantly between the two samples – see Table 24.4. EAT-26 revealed that there was a significant increase in the percentage of participants' scores over 20 suggesting disordered eating (12.7 per cent in 1995 and 29.2 per cent in 1998,  $p = 0.03$ ). In 1998, EAT-26 scores greater than 20 were associated with dieting and self-induced vomiting which increased from 0 per cent in 1995 to 11.3 per cent in 1998 (see Table 24.4). There was no evidence of diuretic or laxative use (medications to encourage urination and emptying of the bowels) to control weight. BMI scores were not indicative of anorexia nervosa. There was no significant difference in bingeing between the two cohorts.

However, in 1998, 74 per cent agreed that they felt 'too big or fat' at least some of the time and this negative eating attitude was associated with self-reported dieting for weight loss. This shows that body dissatisfaction was associated with disordered eating behaviours. In fact, 62 per cent reported dieting within the last four weeks for weight loss.

TABLE 24.4: BMI DATA FOR THE 1995 AND 1998 COHORTS IN BECKER ET AL. (2002)

	Availability of western TV in Nadroga province		
	One month (1995)	Three years (1998)	Significance
BMI mean (standard deviation)	24.5 (3.4)	24.9 (2.5)	n.d
Household television ownership	41.3%	70.8%	0.001
Bingeing (%)	7.9%	4.6%	n.d
EAT-26 score >than 20	12.7	29.2	0.03
Induced vomiting for weight control	0%	11.3%	0.013

### Qualitative data

Participants showed admiration for television characters and desire to emulate their appearance through changing their clothing, hairstyles and body shapes. Content analysis of the data revealed that:

- 77 per cent agreed that television had affected their body image
- 31 per cent mentioned that parents felt they should eat more

- 40 per cent made links between losing weight and improving their career prospects
- 30 per cent referred to television characters as role models.

Qualitative data from the interviews was organised into three themes, as shown in Table 24.5.

TABLE 24.5: QUALITATIVE DATA FROM THE INTERVIEWS WAS ORGANISED INTO THREE THEMES

Theme	Example quote
Admiration of television characters and desire to imitate their body shape	'I just want to be slim because [the television characters] are slim. Like it's influencing me so much that I have to be slim.'
TV characters are role models for entering a job	'Sometimes we can see [teenagers] on TV and they are very slim. They are the same ages but they are working, they are slim and very tall and they are cute, nice. So from there we want ourselves or we want our bodies to become like that. So we try to maintain our weight, try to lose a lot of weight to become more like them.'
Intergenerational conflict stimulated by TV exposure	'My mom wants me to look like her, like growing fat like that, but I don't want that.'

### Conclusions

Consumption of western television has a negative impact on body image and the development of disordered eating attitudes and behaviour even in traditional societies in which eating disorders were rare.

### Evaluation

A strength of the study is that the researchers collected data about eating attitudes and behaviour and television exposure using both questionnaires and interviews. The EAT-26 questionnaire allowed them to gather quantitative data from closed questions such as 'Feel extremely guilty after eating'. Answer options 'always', 'usually' or 'often' scored three, two or one respectively but 'sometimes', 'rarely' or 'never' all scored zero. This is a strength as it acknowledges that everyone feels guilty about food sometimes and this should not count towards the overall score. Also, the researchers could calculate the overall score for each participant and then use statistics to determine the probability of their results if attitudes and behaviour had not changed between 1995 and 1998. In many cases the probability was low, suggesting that television exposure was associated with changes in body satisfaction and dieting.

However, statistics do not allow participants to tell their story in their own words and can miss key information which the researchers may not have expected. Becker overcame this issue by also including semi-structured interviews where she could explore elements such as the role of peers and family members in shaping attitudes and behaviour. This allowed her to find out more about why the girls were trying to lose weight and what they thought about characters on the television. This increases the credibility of the study as Becker et al. provide direct quotes to support the themes that emerged in the thematic content analysis. This said, the selection of these specific quotes is subjective and there may have been other quotes that indicated that other socioeconomic changes in Fiji may also have shaped the girls' attitudes.

A weakness of the study is that the cross-sectional design means that participant variables may be a threat to the validity of the findings. Although the girls in each cohort were matched for age, gender, school attended and ethnicity, it is impossible to know whether the girls in the 1998 cohort for example might have had more negative eating attitudes in behaviours had they been asked in 1995 and whether those in the original 1995 sample would have had more negative

attitudes and behaviours had they been followed up in 1998. Cross-sectional studies are also affected by cohort effects, meaning that the television exposure may not have been the only aspect of Fijian culture which was impacting their well-being. Other aspects of globalisation and consumerism may also have been increasing pressure on the young women and encouraged them to feel anxious about the future. However, this does not explain why their distress was reflected in disordered attitudes towards food and eating as opposed to depression or psychosis.

Another limitation of the study is that the sample is restricted to only two schools in a single province of Fiji. This reduces the generalisability of the findings. For example, girls in other areas of Fiji may have different opinions and behave differently. This may have been linked to aspects of the culture of the specific schools chosen, e.g. all-girls versus mixed schools. Girls who were not in formal education may also have behaved differently as the exposure to other girls talking about the television characters would also be more limited. It may, in fact, be that the television exposure alone is not the key factor. For example, girls who viewed the television communally and later talked about the programmes at school may have been more likely to conform with new group norms condoning dieting and wanting to be like the characters on the television.

A final issue with the validity is that the researchers did not actually measure eating disorders, i.e. they did not use the DSM or the ICD to make a diagnosis; they simply looked at EAT-26 data and the girls' BMI. This means the conclusions about eating disorders should be viewed with caution. Also, the data was entirely self-reported, although the girls did talk whether their friends thought the same as them, for example. This reliance on self-reports is problematic as the girls may have demonstrated demand characteristics especially when being interviewed by the research team who would have been unfamiliar to them and American, meaning that they may have been more likely to agree with statements which showed approval of American and other western women.

### THINKING LIKE A PSYCHOLOGIST

Can you think of a way of changing the methodology to achieve more credible results from these Fijian young women? How might the use of indigenous researchers have affected the results? Could techniques have been introduced to check the reliability of the thematic content analysis?

### EXAM TIP

If asked to give a strength or weakness of research study, always be sure to use information that links your points directly to the specific study being evaluated. It should be possible to read the answers and know immediately which study it refers to due to the inclusion of specific procedural information. For example, if you are saying a strength was that the questionnaires used closed questions so they could use statistics to analyse the data, elaborate your answer with an example of a closed question.

### REICHEL ET AL. (2014)

Reichel et al. examined the reactions of adolescents and young adults with anorexia nervosa towards images of emaciated bodies.

#### Background

Questionnaire data shows that people with anorexia nervosa report both 'fear of fatness' and 'drive for thinness' (Thiel et al., 1997). However, objective measures tell a different story. For example, people with anorexia nervosa show greater aversive (negative) bodily responses to images relating to food and fatness than controls. Conversely, they do not show significantly different responses to controls when shown images representing a thin body ideal. Various measures have been trialled in an attempt to find support for the idea that the drive for thinness is as strong as fear of fatness in people with anorexia nervosa but so far, no objective evidence has been found.

## KEY TERMS

**cachexia:** a serious medical condition caused by extreme weight loss in which bones are visible

**emaciation:** extreme thinness caused by illness or malnutrition

**percentile:** a value which indicates the proportion of the population who scored lower than the participant on a given item, e.g. the 80th percentile for intelligence would mean that the participant scored higher than 80 per cent of the population

**pro-anorexia forums/websites:** online communities that promote anorexia nervosa as a lifestyle choice and provide a platform for users to share weight loss techniques

**skin conductance:** an objective measure of emotional arousal

**startle response:** an automatic or involuntary reaction to an unexpected stimulus such as blinking of the eyes or flinching movement

This led researchers to wonder whether the type of stimuli used in these studies was simply not extreme enough to create a positive (appetitive) response in people with anorexia nervosa. **Pro-anorexia forums/websites** promote disordered eating attitudes and behaviour through the use of 'thinspiration' or image galleries containing photographs of girls and women with visible ribs, hip and cheekbones, sunken cheeks and abdomens, signs of **cachexia**, the final irreversible signs of anorexic weight loss. The people in the images are referred to as 'glass fairies', 'bone children' and 'feather girls', leading site/forum-users to develop positive associations with the imagery and positive ingroup identity with other users.

## Aims

To compare emotional processing of images of extremely emaciated bodies (thinspiration) in adolescents and young adults with and without anorexia nervosa (AN). The researchers hoped that the use of such extreme images would be sufficient to show that people with AN have an appetitive reaction (a positive response which indicates an attraction) to such images whereas healthy controls have an aversive reaction (a negative reaction which indicates dislike).

The researchers expected that:

1. **Startle responses** would decrease as images became more pleasant.
2. Startle responses would be greater than controls for patients when viewing **emaciation** images.
3. There will be no difference in self-reported data for the patients and control when viewing emaciation images.
4. **Skin conductance**, heart rate and self-reported arousal will be higher when viewing pleasant and unpleasant images (including emaciation) compared with neutral images.
5. All participants will show an increase in skin conductance and heart rate when viewing emaciation images compared with other images.

## Method/design

An experiment with repeated measures and counterbalancing, the independent variable was the type of image (e.g. pleasant, unpleasant, neutral images or emaciation); this part of the study was repeated measures as all participants saw both types of image. The researchers also compared the reactions of people with and without a diagnosis of anorexia nervosa; this second IV involved independent measures as people would only be in one of these groups during the experiment. There were two types of dependent variable: objective DVs included startle response, skin conductance and heart rate; subjective measures included self-reported measures of pleasantness, arousal and dominance.

## Sample

A volunteer sample:

- 36 females, aged 14–21 with an ICD-10 diagnosis of anorexia nervosa (restrictive and purging type):
  - BMIs were all below the 10th **percentile** for their age
  - mean duration of the eating disorder was 1.3 years
  - all had received an average of seven months of treatment
  - recruited from in/outpatient programmes in Berlin, Germany.
- 36 age/education-matched controls:
  - recruited from newspaper adverts, youth activity centres and a university campus
  - none had any ICD-10 disorders
  - BMIs ranged from the 10th to the 90th percentile for their age
  - none had any hearing/visual impairment, neurological diseases, or took any medication that might affect their startle reflex.

## Procedure

### Materials

Participants were shown 52 coloured 100 × 144 mm photographs: 12 unpleasant, 12 neutral, 12 pleasant and 16 emaciation body images. Non-body pictures were chosen from the International Affective Picture System (Lang et al., 2008). None included food or inappropriate content, e.g. violence, blood. The 36 emaciation images were chosen from pro-anorexia galleries containing 8000 photographs. All showed signs of cachexia. Faces and other distinguishing features were digitally removed for ethical reasons. All backgrounds were standardised. The 100 healthy volunteers rated the images (one to nine scales) for arousal, aversion and how underweight they appeared. The 16 highest scoring images were selected.

### Pre-test procedure

#### KEY TERMS

**electrocardiogram (ECG):**

a way of recording heart rate using electrodes attached to the skin

**electromyogram (EMG):** a way of recording electrical activity in the muscles using electrodes attached to the skin**visual analogue scales (VAS):** a way of measuring subjective responses by asking respondents to place a mark on a horizontal line to indicate their position; the end points of the line usually represent the two extremes, e.g. strongly agree versus strongly disagree

Mood, arousal, hunger state, and body dissatisfaction were assessed using 100 mm **visual analogue scales (VAS)**. Participants sat 1.5 metres from a 1.5 × 1.7 m screen. They were shown four landscape images with three startle-eliciting noises as an introduction.

### Procedure

Next, participants viewed the 52 images described above while wearing headphones. Each image was shown for 12 seconds, with a black screen between each image. Stimuli were shown in two counterbalanced sets of 26 pictures. Each set was presented in a randomised order. There was a 15-minute break between each set.

Seventy-five per cent (39 out of 52) of images in each category were shown with a startling noise for 3.5, 4 or 4.5 seconds after the image appeared. Noises were played during 25 per cent of black screens. This ensured that the noises were unpredictable. Each noise was 50 milliseconds long and 95 decibels (dB) in volume.

### Psychophysiological (objective) measurement

- An **electromyogram (EMG)** recorded muscle activity using electrodes placed near the eyes to measure blinking as part of the startle reflex.
- Skin conductance was recorded using electrodes located on the non-dominant hand (the sample did not contain anyone with limb differences).
- Heart rate (in beats per minutes) was measured using an **electrocardiogram (ECG)** for the ten seconds after each picture was presented; this was compared with a baseline heart rate to give the overall heart rate change and degree of heart rate acceleration and deceleration.

### Subjective rating and post-test procedure

Half of the pictures were shown again with nine new pictures added in. Participants rated each image for pleasantness (valence) and arousal from one (low) to nine (high). Finally, they completed questionnaires on eating disorders and emotional functioning.

## Results

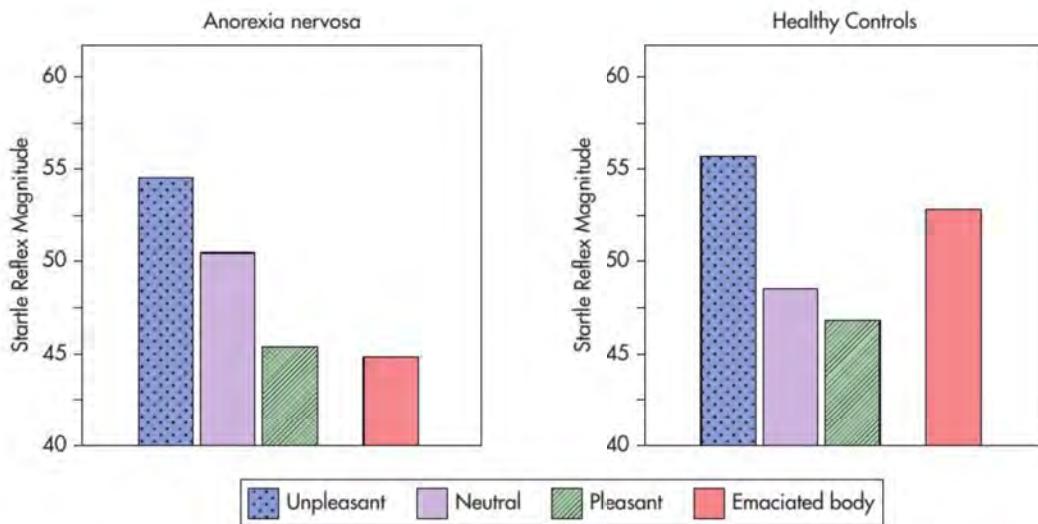
Average startle reflex was significantly greater for unpleasant than neutral images, and neutral images elicited a greater startle response than pleasant images. This was true of both patients and non-patients. Patients showed a significantly lower startle reaction towards the emaciation images compared with the neutral images. However, there was no significant difference for the patients between emaciation images and pleasant images. In contrast, the control group's startle response to emaciation images was almost double that of the pleasant images (see Figure 24.2), although not as high as the unpleasant images.

Both patients and controls rated the emaciation images as unpleasant compared with the neutral images and there was no significant difference in this self-reported data between the groups (see Figure 24.3). The difference between the subjective measures and objective measures was greater for patients than control. However the control group rated the emaciation images as

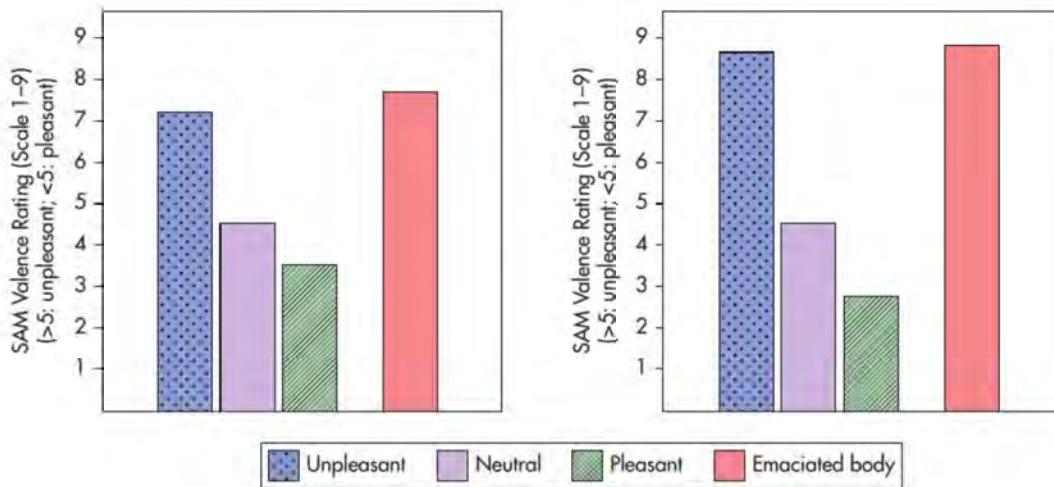
highly unpleasant yet their startle reflex was less extreme than that created by the unpleasant non-body images.

#### MATHS TIP

These graphs are based on the ones in the original article published by Reichel et al. However, in your exams if you are asked to draw a bar chart always ensure that the y axis starts at 0. If you are plotting values where there is a maximum possible score, (e.g. 9 on the arousal and valence graphs) make sure you extend the axis up to the this value (e.g. 0-9). Also ensure that there is a gap between the first bar and the y axis and then between all additional bars. Bars should only touch on a histogram and never on a bar chart. See Student Book 1 page XX and XX for more on histograms and bar charts.

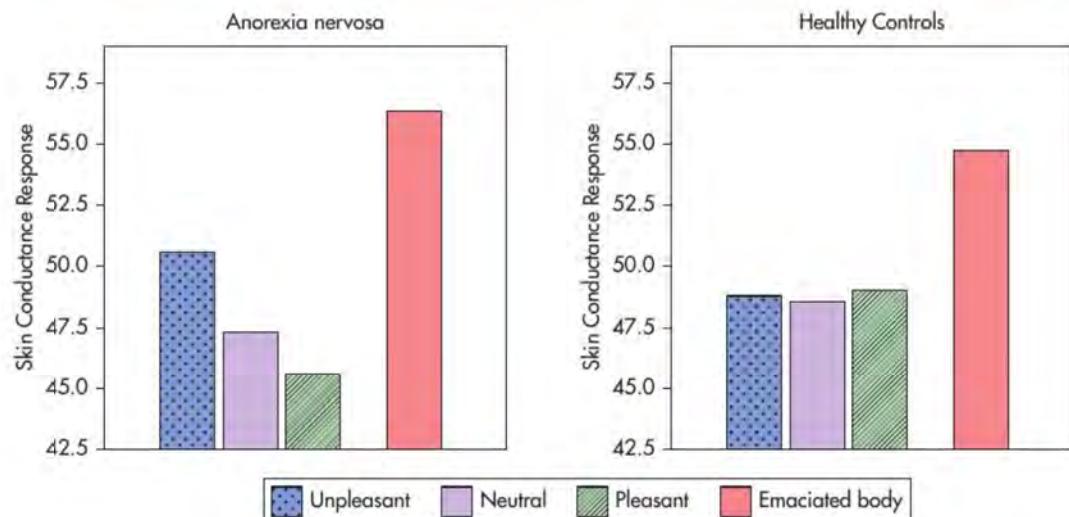


► Figure 24.2 Mean average startle reflex for people with AN and healthy controls when shown four different categories of image

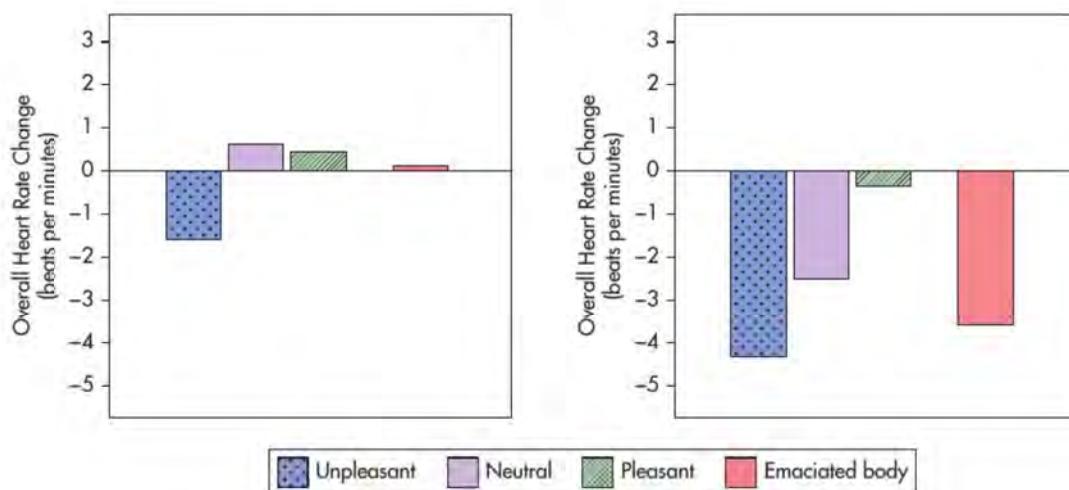


► Figure 24.3 Mean average unpleasantness ratings for people with AN and healthy controls when shown four different categories of image

Skin conductance reaction showed no significant difference between the pleasant, neutral and unpleasant image types or between the two groups (see Figure 24.4). Compared with the controls, the patients showed significantly lower overall heart rate and heart rate deceleration when viewing both the emaciation images and the non-body images (see Figure 24.5). They also self-reported lower arousal. In the controls, overall heart rate and heart rate deceleration showed the greatest change after viewing unpleasant pictures, followed by emaciation, neutral and pleasant images.

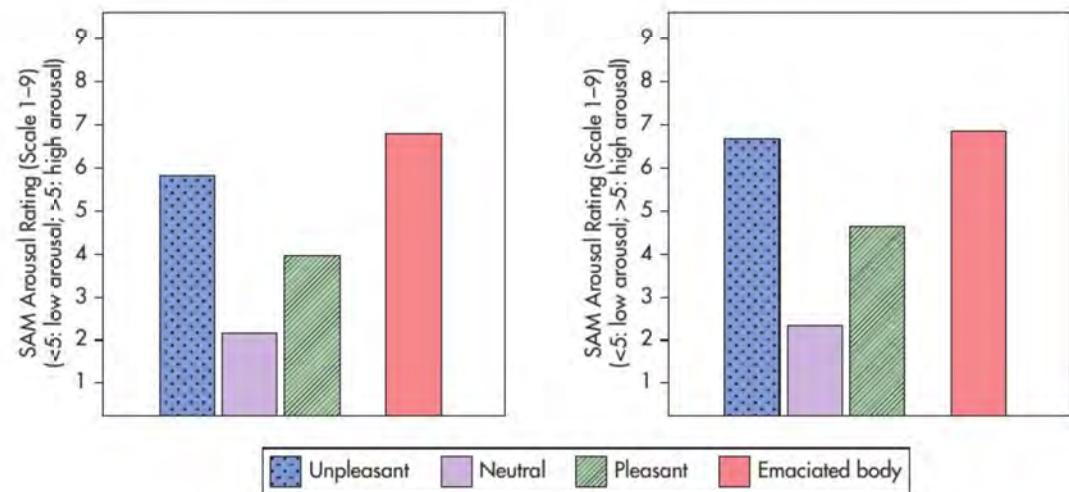


► Figure 24.4 Mean average skin conductance response for people with AN and healthy controls when shown four different categories of image



► Figure 24.5 Mean average change in heart rate for people with AN and healthy controls when shown four different categories of image

Emaciation images elicited higher skin conductance than neutral images in both groups. Controls showed significant changes in heart rate when viewing emaciation images compared with pleasant images. However, this was not true of the patients' heart rate change and rate of deceleration did not differ between positive and emaciation images. With regard to the self-reported data there was no significant difference between patients and controls, all participants rated the emaciation and unpleasant images as similarly arousing (see Figure 24.6).



► Figure 24.6 Mean average self-reported arousal for people with AN and healthy controls when shown four different categories of image

## Conclusions

Adolescent female patients diagnosed with anorexia nervosa show automatic, appetitive physiological reactions towards emaciated body images. This is despite self-reports that suggest that they find these images highly aversive. Idealising cachexia or at least having a distorted positive view of extreme emaciation may be a relevant motivating factor for disordered eating.

## Evaluation

A strength of the study is that the patients' diagnosis was checked using various well-established measures, for example the Structured Interview for Anorexic and Bulimic Eating disorders (SIABS-EX). This measurement has strong inter-rater reliability (+.8) and construct validity (Fichter and Quadflieg, 2001). This is a strength in comparison with studies that rely on secondary data relating to diagnoses that may not reflect the person's current mental health status.

### KEY TERMS

**EMG latency:** time in milliseconds before onset of the EMG waveform

**EMG magnitude:** the difference between peak EMG (highest level within the 200 ms after the noise) and baseline (level just before response onset)

A further strength of the study is that many of the measures were highly objective. For example, the study includes a detailed description of how the startle reflex was obtained using the data relating to the **EMG magnitude** and **latency**. There was very clear-cut information provided about if and when a trial should be rejected, e.g. latency less than 20 ms and the point at which a participant was classified as a non-responder leading to the rejection of all of their data ( $n = 2$ ). This helps to make the study more scientific as the procedure removed researcher bias relating to whether data should be rejected or not.

Another strength of the study is the fact that the researchers only collected skin conductance and heart rate data for images which were not accompanied by a startling noise. This is because the noise could have affected these involuntary bodily responses, making it impossible to determine whether differences were due to the type of image (e.g. pleasant versus emaciation) or the confounding effect of the unexpected noise. This helped to improve the internal validity of the findings. However, it did mean that data was only collected on 13 of 52 trials (25 per cent). Also data was rejected from 16 participants due to technical difficulties, which reduced the sample size for this aspect of the study and the possibility of finding significant results.

A weakness of the heart rate data as a measure of appetitive/aversive responses in people with anorexia nervosa is that the data may not be valid for this group: 95 per cent of people with a diagnosis of anorexia nervosa have bradycardia or low heart rate caused by the parasympathetic nervous system attempting to conserve energy. Mild physical exertion can cause rapid tachycardia in such patients. This means that any abnormalities of heart rate observed in the study may be an effect of having anorexia nervosa rather than telling us anything about the causes of this condition.

Another weakness is that the decrease in physiological reactions to the emaciation images in the anorexia nervosa group may not indicate an appetite for this type of imagery. It may simply be that the people in this group were more familiar with signs of cachexia compared with people without the condition and this is why the images did not produce the same aversive responses. The relationship between mere exposure and liking is well established in psychology (Zajonc et al., 1968) The researcher noted that the people with anorexia nervosa in this study knew each other and therefore were exposed to such imagery every day. They may also have been users of pro-ana forums themselves and this was not assessed in this study. Further research using prospective longitudinal studies may be useful to track the point at which startle responses begin to change from aversive to appetitive and whether appetitive responses are also present in any specific subgroups of people without anorexia nervosa.

A final weakness is that the sample is limited in terms of age and gender. It only included people with anorexia nervosa aged 14 to 21 years and did not include any males. All participants were also from Berlin in Germany, making the sample ethnocentric. The results should therefore be generalised with caution as the same was not representative of boys and men, younger children or middle aged and older adults. Research suggests that anorexia

nervosa may be a culture-bound syndrome which manifests differently in the minority world and therefore it would be interesting to investigate objective and self-reported responses to emaciation images in people with restrictive eating in other cultures where fear of fatness has been shown to be a less important driver of the disorder.

**CHECKPOINT**

1. Who were the participants in Rosenhan's study?
2. How did the pseudopatients collect qualitative data in the Rosenhan study?
3. How did Suzuki et al. measure hypcholesterolemia in their study?
4. What is the difference between effectiveness and efficacy?
5. Why would a researcher use a funnel plot?
6. Name the three covariables in the study by Ma et al.
7. How did Becker et al. measure disordered eating in their study of girls and young women in Fiji?
8. How did the researchers select the emaciation images?
9. Which group showed a greater startle response in the study by Reichel et al. – people with a diagnosis of anorexia nervosa or healthy matched controls?

**SKILLS**

ANALYSIS, INTERPRETATION,  
CRITICAL THINKING

**EXAM PRACTICE**

1. Describe the procedure of the study by Rosenhan (1974) from the point at which the pseudopatients were admitted to the hospitals. (4 marks)
2. Compare Rosenhan (1974) and Suzuki et al. (2014). You must refer to reliability in your answer. (4 marks)
3. Analyse your chosen contemporary study in terms of credibility. (6 marks)
4. Assess your chosen contemporary study in terms of objectivity and generalisability. (16 marks)

# CHAPTER 25 METHODS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and/or evaluate:

- methods from Units 1 and 2 as appropriate
- randomised controlled trials (RCTs) related to clinical psychology
- neuroimaging, including structural and functional brain scanning related to clinical psychology
- conventions of published psychological research: abstract, introduction, aims and hypotheses, method, results, discussion; the process of peer review
- the Health and Care Professions Council (HCPC) guidelines for clinical practitioners
- decision making and interpretation of data
- issues of reliability, validity, generalisability, credibility, objectivity, subjectivity, ethics and practical application of findings as appropriate in clinical psychology.

## GETTING STARTED

Clinical researchers sometimes use animal experiments to help them to explore the causes of mental disorders and their treatments. But, how do we know if a rat is delusional or depressed? The absence of language and other higher order cognitive processes means procedures need to be devised to determine whether the animals are behaving normally or abnormally. For example, rats usually love sugar and hate being in water. How could you use this knowledge to design an experiment to test the effects of a new antidepressant drug?

You have access to the following equipment: two rat drinking bottles, a bag of sugar, weighing scales, a stopwatch, a one metre square tank of water and a thermometer. You also have 20 rats. You can use any other equipment you want. Work in pairs and decide on your:

- experimental design
- fully operationalised independent and dependent variables
- aim, directional experimental and null hypotheses
- control variables
- procedure (write this out in steps so it is clear and can be replicated)
- appropriate descriptive and inferential statistics.

Share your idea with another pair and decide on one way of improving your experiment.

## METHODS FROM UNITS 1 AND 2 AS APPROPRIATE

### LINK

See Student Book 1, Chapter 4 (page 36), Chapter 5 (page 45), Chapter 11 (page 101), Chapter 12 (page 112), Chapter 17 (page 185) and Chapter 23 (page 257) for all the methods from Units 1 and 2.

## RANDOMISED CONTROLLED TRIALS (RCTS) RELATED TO CLINICAL PSYCHOLOGY

Throughout the Clinical psychology topic, you will have encountered many randomised control trials (RCTs). These are the 'gold standard' method for providing credible scientific evidence regarding the efficacy of treatments and therapies. RCTs are a special type of experiment which typically employs various controls to investigate whether changes in a person's symptoms are a result of the specific treatment or therapy that they have received, or some other factor. These controls include randomisation, the use of placebos or other control groups and a double-blind design.

## RANDOMISATION

Participants are randomly allocated to one of two or more groups; the experimental group will receive the treatment or therapy being investigated (e.g. a new drug) and the control group(s) will receive either another type of treatment or therapy (e.g. an old drug), treatment as usual (e.g. standard clinical care) or they will be placed on a wait-list, meaning they will receive treatment but not until the next phase of the study or when the study is over.

## PLACEBOS

A common feature of many RCTs is the use of placebos in drug trials and/or sham (fake) treatments when investigating psychological treatments. Placebos are inactive medications that look, smell and taste exactly like the genuine medication. These are given to the control group, who are unaware whether they have received the real drug or the placebo. This lack of awareness is an example of a single-blind design and allows the researcher to control for expectancy effects. When people know they are taking a drug which they have been prescribed by a doctor for a certain condition, they typically expect to feel better. This expectation sometimes leads them to actually feel better but placebo effects like this are ultimately psychological and separate from any biological effects of the drug on their nervous system.

### LINK

For more on placebos and placebo effects, see pages 227 and 294.



▲ Placebos are commonly used in drug trials

Using placebo pills, injections or patches allows researchers to determine the extent to which a change in symptoms is due to the placebo effect and how much is due to the genuine impact of the drug. As both groups expect to feel better after taking the drug, any difference in improvement of the experimental group compared with the placebo group must be due to the efficacy of the drug and not a placebo effect. When testing the efficacy of psychological therapies, the control group may attend weekly 50 minutes with the CBT therapist but they will not practise CBT together. They might engage in some other form of non-directive therapy or counselling session or just talk informally.

## DOUBLE BLIND

Many RCTs also use a double-blind design, meaning that not only does the participant not know whether they have received a placebo or not (single blind) but also that the researcher who assesses their symptoms, and collects other data from them, does not know which group they were in. This reduces the effect of researcher bias.

## EVALUATION

Randomisation is a strength of RCTs. It increases the internal validity of the findings by reducing the impact of participant variables. For example, random allocation should reduce the chances of all the people with worse symptoms ending up in the control group. Often statistical tests are run to ensure that groups are well matched and that there are no variables which significantly differ between them, such as how long they have been experiencing symptoms. Also, the use of a double-blind design decreases the effects of demand characteristics and researcher bias. For example, a researcher who expects that a person will feel better since they took a real drug may respond differently to participants when assessing their symptoms, e.g. a surprised expression or tone of voice which affects how the participants respond to further questions.

A weakness of RCTs as a way of finding out about efficacy is that they may overestimate the impact of the drugs/treatment and give false hope regarding how much they can actually reduce symptoms in patients in the real world. In real clinical practice, doctors do know which drugs they are providing and to whom. Some may spend time trying to generate positive feelings in the patients about the chances of recovery whereas others may not. Patients will be going about their usual lives, eating their normal diet and potentially taking other medications which may interact with the drugs. This means that real-world effects of drugs may not be the same as those found in RCTs.

**EXAM TIP**

Even if you do not intend to answer exam questions on the contemporary study by Hans and Hiller (2013) (pages 321–324), it is worth having a brief working knowledge of this study as you can use it as an example when evaluating the validity of RCTs.

## NEUROIMAGING

The next section describes and evaluates the use of structural and functional brain scanning in clinical psychology.

### STRUCTURAL BRAIN SCANNING

**LINK**

For more on CAT, PET, and fMRI see Student Book 1, pages 194–196.

Structural brain scanning involves taking static (still) images of the brain from different angles. These images can be examined on their own or used together to create a three-dimensional digital model of the brain. You have learned about the use of CAT scans as a way of creating structural scans. Another structural scanning technique is **magnetic resonance imaging (MRI)**. This is known as a non-invasive technique as it does not require the patients to have an injection or another painful procedure, although the process of taking the scan can be very noisy and claustrophobic.

**KEY TERMS**

**magnetic resonance imaging (MRI):** a technique for creating structural scans with high spatial resolution using powerful magnetic fields and radio wave frequencies

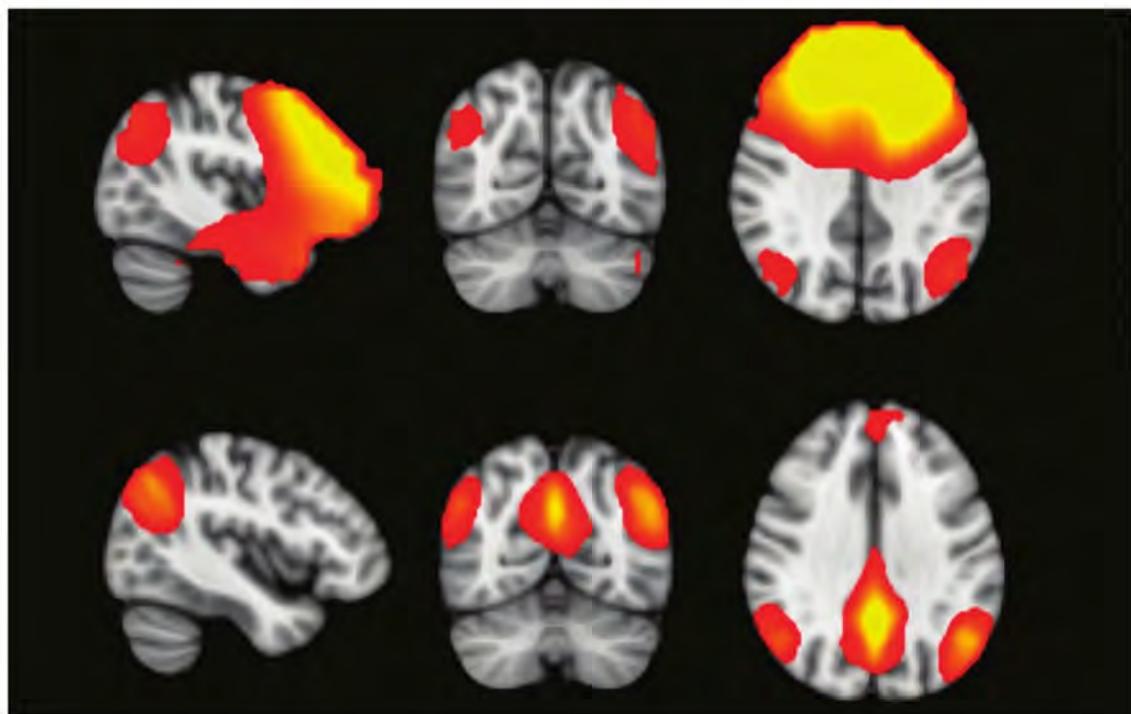
**neurodegenerative disorder:** a condition in which nerve cells (neurons) become increasingly damaged; symptoms include difficulties in cognition and movement

When undergoing MRI, patients lie flat on their backs inside a large tube which creates a very powerful magnetic field around the body. Movement can affect the quality of the images, so the person must try to remain very still. They may be asked to hold a bite-bar in their mouth which is a device used to stop the head from moving while taking images of the brain. Brain tissue contains a lot of water, meaning a lot of hydrogen atoms are present here. The scanner uses radio frequencies to measure the movement of protons in hydrogen atoms which behave differently when the magnetic field is on compared with when it is off. The scanner uses the information to detect areas of the brain where tissue is denser or less dense to create extremely clear and detailed images, showing the shape and relative size of individual brain regions.

Clinical psychologists may use MRI for a number of different reasons. In clinical practice, they may be used longitudinally to determine the progress of a **neurodegenerative disorder**. Scans may be taken at two or more different time points and compared to identify any differences. In research, MRI can be used in cross-sectional designs to determine whether there are neuroanatomical differences between people with and without a specific disorder. For example, MRI research has shown that patients with early onset schizophrenia often have enlarged ventricles (fluid-filled cavities in the brain) compared with people without schizophrenia.

### FUNCTIONAL BRAIN SCANNING

You learned about functional scanning in Student Book 1, page 196. One neuroimaging technique that produces data about the function of different brain regions is fMRI. Function is about purpose, so a functional scan can tell us the role of different brain regions, e.g. how different brain regions contribute to the completion of a certain task. You should remember from Student Book 1, page 196, that fMRI works by measuring the amount of oxygenated blood flow through each area of the brain. The theory is that active areas require higher blood flow than inactive areas as they need more oxygen. When an area becomes active there is an initial but brief dip in oxygenated blood but then the body quickly overcompensates by directing an increase in blood flow to that region, peaking six seconds after the area has been activated. The fMRI tracks this information to create a multi-coloured image in which the most active areas are shown in yellow fading to orange and red (see fMRI scan image in Figure 25.1).



► Figure 25.1 fMRI scans show which brain regions are active by detecting increases in oxygenated blood flow

#### LINK

See page 281 for more on fMRI studies carried out by Egan et al. (2001).

In clinical psychology, researchers use fMRI to detect differences in the way that people with and without disorders or with specific genetic differences complete tasks.

Research by Egan et al. (2001) using fMRI scans showed that the prefrontal cortex was less active when performing a cognitive task in people carrying the Val allele of the COMT than people with one or more copies of the Met allele. This data was used to infer that Val interfered with dopamine regulation which is necessary for activation of neural networks within the prefrontal cortex. As the Val allele is more common in people with schizophrenia this helps to explain some of the symptoms such as disorganized thinking.

#### EVALUATION

A strength of MRI and fMRI data is that it provides objective, quantitative data that can be subjected to statistical analysis. For example, the size of different brain regions can be calculated in cubic millimetres. Oxygenated cerebral blood flow is typically measured in millilitres of blood per 100 g of brain tissue. Using these very precise measurements and scientific apparatus to collect the data mean that other researchers can attempt to replicate the finding in order to check the reliability of the findings.

A weakness of neuroimaging is that although the data produced is objective, as it is created by a computer, the interpretation may be subjective. For example, a researcher may believe that because the amygdala is highly active when a person observes certain images, this activity is suggestive of a negative emotional response. However, the amygdala also registers emotions such as surprise, which may be neither positive nor negative, simply unexpected. For conclusions to be valid it is important that the researcher interpret their data carefully and does not make claims which go beyond what the data actually shows.

A weakness of MRI and fMRI techniques is that both rely on participants remaining very still within a very noisy and cramped environment. This could be distressing especially for young children, people with limited mobility, cognitive difficulties or sensory issues. For this reason, this type of data collection may not be suitable, ethically, for use with some participants. Likewise, this type of neuroimaging is not possible for people with metal implants in their

bodies (e.g. pins for fractured bones) and those with electrical devices such as pacemakers. This is due to the use of powerful magnets.

## CONVENTIONS OF PUBLISHED PSYCHOLOGICAL RESEARCH

In order for research studies to be published in scientific journals, researchers must learn to present their work according to a specific set of agreed conventions.

### ABSTRACT

This is a brief summary of the research. It should include the aim, details of the methodology, results (which may include descriptive and inferential findings) and the conclusions. Abstracts are uploaded to large searchable databases so that other researchers can identify studies which might be useful to them in their own research. For example, a schizophrenia researcher might search for all the studies on D2 dopamine receptors published in the last year and read through them to decide which paper they wish to download. If the abstract is not written well, then people will be less likely to download and read the full article. This could lead to fewer citations in other future articles which is important as citations are often used as a metric of a researcher's academic success.

### INTRODUCTION

#### KEY TERMS

**in-text citations:** a way of acknowledging the original author/source of an idea presented within a piece of academic writing; the original author's name and the publication date are presented in brackets within the main body of the essay, paper or chapter directly after the first mention of the idea/research

**literature review:** a critical summary of the existing research findings on a specific topic

The introduction provides a detailed **literature review** of relevant theories and studies. It provides an academic context which helps to explain how the researcher decided on their research question and/or hypotheses. Theories and studies are not necessarily evaluated in the introduction, unless problems with the existing literature have led the researcher to want to carry out their own research in this area and therefore the problem needs to be explained to provide necessary context and a rationale for the choices made in the current study. For example, a researcher might explain the monoamine depletion hypothesis and past research studies which have supported this but then explain that sometimes people who are at risk of depression due to facing negative life events have elevated serotonin levels.

The introduction is likely to include a number of **in-text citations**. Any ideas or research which is not completely original must be followed by the names of the researcher(s) who first published the idea/research. There are various different ways of presenting these citations. A once popular method was developed by the American Psychological Association. This style guide is currently in its seventh edition and is therefore referred to as APA-7 (APA, 2019). Citations following this guidance include the researcher(s) last names and the publication date of the article or book in brackets. If direct quotes are used, then the researcher will also add the exact page number. This is central to the idea of academic honesty, meaning researchers must never present other people's ideas or work as their own. You will see numerous in-text citations throughout this book.

### AIMS AND HYPOTHESES

Aims and hypotheses should be included within the introduction section of the research paper. The aim of the study is what the researcher hopes to find out; this might be quite specific, such as testing a certain feature of a theory, or it might be more exploratory and open, if there has not been a lot of research in this particular area already. If the study is an experiment, the researchers should mention an explicit hypothesis that is being tested. This is a testable statement which should be true if a certain theory is correct. For example, if the dopamine hypothesis of schizophrenia is correct we might expect that people with schizophrenia who take daily chlorpromazine have fewer hallucinations than people without schizophrenia who take placebos.

This example is a directional experimental hypothesis as we have said that one group has fewer hallucinations than the other. This is appropriate if there is research evidence available to

support this view. Sometimes, however, researchers will use a non-directional hypothesis, e.g. there is a difference in the number of hallucinations experienced when taking chlorpromazine compared with placebos. This is more suitable if the literature is contradictory or you are working in a fairly new area of research.

In science, researchers typically test the null hypothesis. For example, there is no difference in the number of hallucinations experienced by people taking chlorpromazine in comparison with people taking placebos.

#### LINK

For more on hypotheses see Student Book 1, page 102.

#### EXAM TIP

When you are writing experimental hypotheses in exams always make sure you include both levels (groups or conditions) of the independent variable (highlighted here in green and purple) and write a comparative statement including the word 'than', e.g. **People who take a regular daily walk of 20 minutes have milder depressive symptoms THAN people who do not take a daily 20-minute walk.** The dependent variable is in blue. You must also fully operationalise your variables. This means you must give good detail within the hypothesis about how your variables are measured. What could you add to the DV in this hypothesis to fully operationalise depressive symptoms? How will they be measured? Notice that the IV is fully operationalised, we haven't just said take a walk, we have said how long the walk should be and how often. Never leave the examiner in any doubt that you have at least tried to operationalise!

#### METHOD

The method section of a published research study will include details about the design of the study, the variable and how they were operationalised, the sample and details about the participants such as their mean age and gender ratio. In clinical research there may be details of their psychiatric histories. This will be given in terms of the group not individual participants, e.g. 45 per cent had tried three or more antidepressants. There will also be a detailed description of all of the materials used in the study. In clinical studies there are often many different questionnaires or psychometric tests which are administered to participants to measure their symptoms. Details will be given of the validity and reliability of these instruments. Finally, there will be a detailed description of the procedure with enough information to allow for a full replication. This section usually gives details of how ethical guidelines were upheld, e.g. how informed consent was obtained.

#### RESULTS

The contents of the results section will depend on whether the study was qualitative or quantitative, correlational or experimental. In an experimental study, descriptive statistics will include percentages, measures of central tendency (e.g. mode, median and/or mean) and measures of dispersion (e.g. range and standard deviation). Usually these are presented in tables. Bar charts will often be used to visually display the difference between groups and/or conditions. Findings of correlational research may be presented in a scattergram. Measures of central tendency and dispersion are unnecessary as they will not help to address the hypothesis, which is about a relationship between pairs of scores from individual participants rather than the comparison of average scores for a set of data. The findings of inferential statistical tests will also be presented including p values, meaning the probability of obtaining the results if the null hypothesis were true.

In qualitative research studies, the results section may comprise a description of emergent themes from the thematic analysis, with examples of quotes to support each theme. There may be a model (diagram) that represents the way in which themes interact.

## DISCUSSION

The discussion section usually begins by reiterating the findings and discussing them in the context of the theory and studies identified within the introduction. For example, the researchers may compare their findings to those of similar studies and suggest reasons for any differences. The second main part of the discussion is an evaluation of the study in which the researchers identify key limitations of the validity, reliability and generalisability. Suggestions for future research may be identified and they may also discuss ways in which the findings may be beneficial to society in terms of practical applications.

### SKILLS

SELF-DIRECTION, INITIATIVE,  
ANALYSIS

## ACTIVITY 1

Choose an example of a journal article about anything you have found interesting in Clinical psychology. Using different coloured pens or patterns (e.g. bubbles, boxes, underline) identify each of the different sections of the report as described above. Can you find all the key features of each section? Is there anything missing (or anything extra)?

## THE PROCESS OF PEER REVIEW

The purpose of peer review is to help ensure high levels of scientific rigour and quality of published research. When an article or research paper is first submitted to the journal editor, they will decide whether the topic of the research is suitable for their journal, for example, carrying out some initial checks regarding the originality, significance and validity of the research.

If they like the article and think it is a good fit for their journal, they will send a blind copy (researchers are anonymous) of the article to a team of independent peer reviewers. These people will be academic experts working in the same field as the researcher who submitted the article and they will critically analyse the quality of the research, from checking that the literature included in the introduction is comprehensive, to checking the correct statistical tests have been used and that the conclusions are not overstated and grounded in the actual findings. They will provide detailed written feedback to the editor with a recommendation that the research should either be accepted without any changes, accepted if certain changes (revisions) are made, or rejected without a chance to resubmit.

The journal editor will make their decision based on the opinions of the full team of reviewers. They will then communicate this to the researchers, who will remain unaware of the identity of the original reviewers.

### Evaluation

An advantage of peer review is that it helps to maintain the integrity of scientific research through meticulous critical analysis. This ultimately makes the findings more useful to society as peer review helps to ensure that findings and/or conclusions which lack validity do not get into the public domain. This means the decision-making about funding, policy-making and so on are based on high quality evidence, hopefully leading to positive changes which will benefit a diverse range of different groups within society. The fact that the process is conducted anonymously should mean that the process is more objective.

Disadvantages include the fact that the blinding process can break down and in reality peer reviewers may not be completely independent. They may have a vested interest in supporting certain types of research or researchers. Also, it is possible that only certain types of people end up being sufficiently expert to become peer reviewers on prestigious journals. This means that the perspectives about what makes quality research may become rather narrow and certain methodologies may be favoured over others.

### THINKING LIKE A PSYCHOLOGIST

Can you think of any reasons why a journal editor might reject an article without even sending it for peer review? What sort of design features do you think a peer reviewer would be pleased to see in an experiment, an observation, a case study or questionnaire? At this point, you may like to conduct some further research into the open science movement, pre-registration and alternatives to peer review.

## HEALTH AND CARE PROFESSIONS COUNCIL (HCPC) GUIDELINES

### KEY TERMS

**standards of conduct, performance and ethics:** ten basic expectations for the behaviour of health and care professionals

**standards of continuing professional development (CPD):** expectations regarding the need for health and care professionals to learn and develop, including updating their knowledge and skills

**standards of proficiency:** minimum expectations that must be met in order for practitioner psychologists to register with the Health and Care Professions Council

In the United Kingdom, health and care professionals who work directly with the public have to register with the Health and Care Professions Council (HCPC). In order to register, practitioners need to demonstrate that they meet a wide range of professional **standards of proficiency**. Some of these are more general and apply to all health and care professionals. Others are specific to the individual professions, including practitioner psychologists. If these standards are violated, the HCPC may remove practitioners from the register.

These standards are updated regularly; the most recent revision came into effect in September 2024. Some of these revisions were made to demonstrate the HCPC's commitment to equality, diversity and inclusion and sustainability as well as the duty of candour, meaning learning from mistakes and apologising to service-users and their carers when things go wrong.

The HCPC also states that all practitioners on the register must be committed to the **standards of continuing professional development (CPD)**. This means that they must keep detailed records of training and supervision sessions attended. The aim of CPD is to keep practitioners' knowledge and skills up-to-date in ways which directly benefit their service users.

All registered health and care practitioners must be suitably qualified, either at graduate level, e.g. a bachelor's degree, or postgraduate level, e.g. a master's degree. Some specialisms such as clinical psychology require the highest level of degree, known as a doctorate. The HCPC also regulates the provision of these education and training programmes to ensure that all graduates are fully prepared and meet the necessary standards of proficiency for their future careers.

### STANDARDS OF CONDUCT, PERFORMANCE AND ETHICS

Once practitioners are registered they must demonstrate that they are meeting the following ten **standards of conduct, performance and ethics** (see Table 25.1).

TABLE 25.1: TEN STANDARDS OF CONDUCT, PERFORMANCE AND ETHICS

Standard	Description
1. Promoting and protecting the interests of service users and carers	<ul style="list-style-type: none"> <li>• respecting service users and carers' right to privacy and dignity</li> <li>• always obtaining valid consent for care/treatment</li> <li>• work in partnership with service users and carers, empowering and enabling them to make decisions about their care and treatment</li> <li>• ensure people are treated fairly; challenge discrimination; take action to ensure personal views do not negatively affect care/treatment</li> <li>• maintaining appropriate professional boundaries</li> </ul>
2. Communicating appropriately and effectively	<ul style="list-style-type: none"> <li>• being polite and considerate</li> <li>• listening to service users and carers to help understand their needs and wishes</li> <li>• providing information in a way which is clear and appropriate to the service user/ carers' needs, (e.g. language, communication issues)</li> </ul>
3. Working within the limits of their knowledge and skills	<ul style="list-style-type: none"> <li>• only work in areas relevant to your knowledge, experience and training</li> <li>• make referrals if you think a service user would benefit from care/treatment that is outside your specialism</li> <li>• attend regular training to keep your knowledge and skills up to date</li> </ul>
4. Delegate appropriately	<ul style="list-style-type: none"> <li>• when asking other colleagues to offer care/treatment on your behalf, ensure they are suitably qualified, skilled or experienced</li> </ul>
5. Respect confidentiality	<ul style="list-style-type: none"> <li>• only disclose confidential information with the service user's consent or if it is: <ul style="list-style-type: none"> <li>◦ legal to do so</li> <li>◦ in the service user's or the public's best interests (e.g. preventing people from immediate risk of harm)</li> </ul> </li> </ul>
6. Manage risk	<ul style="list-style-type: none"> <li>• reduce risk of harm to service users, carers and colleagues as far as possible</li> <li>• monitor your own physical and mental health to ensure that your ability to offer effective and safe care/treatment is not compromised</li> </ul>
7. Report concerns about safety	<ul style="list-style-type: none"> <li>• report concerns about the safety or well-being of service users promptly and appropriately</li> <li>• support and encourage others to report concerns; not prevent anyone from raising concerns</li> <li>• follow up concerns that you have reported and always act on concerns that have been reported to you</li> </ul>
8. Be open when things go wrong	<ul style="list-style-type: none"> <li>• be open and honest when something has gone wrong, e.g. apologise and take action to put matters right</li> <li>• support service users and carers who want to raise concerns</li> <li>• give helpful and honest responses to complaints</li> </ul>
9. Be honest and trustworthy	<ul style="list-style-type: none"> <li>• be honest about your experience, qualification, previous investigations into your conduct/competence, criminal convictions</li> </ul>
10. Keep records of work	<ul style="list-style-type: none"> <li>• keep full, clear, and accurate records</li> <li>• complete records promptly</li> <li>• keep records securely</li> </ul>

**EXAM TIP**

You do not need to remember every standard for conduct, performance, ethics and proficiency but it is helpful to have a good working understanding of all the standards. Questions assessing this knowledge often have an extract where you will be asked to apply your knowledge so it is worthwhile having a general overview of everything. Remember, the longest essay you could get on the HCPC guidelines would be a 16-marker with 6 marks allocated to description. This is about 8 minutes of writing time in the exam, so you may only be able to describe 4 standards, in detail, in this time.

**THINKING LIKE A PSYCHOLOGIST**

If you are interested in a career in clinical psychology, you could carry out some further online research into the 15 standards of proficiency, especially how the standards differ for psychologists compared with other clinical practitioners, and then even more specifically, you could look at the standards for clinical psychologist as opposed to other types of psychologists such as forensic or health psychologists.

**DECISION MAKING AND INTERPRETATION OF DATA****LIST A FROM TOPIC A AS APPROPRIATE**

For Unit 4 you will need to be prepared to answer questions including descriptive and inferential statistics covered in Student Book 1.

**LINK**

See Student Book 1, page 46 and page 76 for more on all elements of List A (descriptive statistics).

**LIST B FROM TOPIC B AS APPROPRIATE****LINK**

See Student Book 1, page 112 and page 146 for more on all elements of List B (inferential statistics).

**EVALUATION OF RESEARCH IN CLINICAL PSYCHOLOGY****RELIABILITY**

This chapter has focused on the use of a number of different strategies for ensuring the reliability, findings and conclusion of clinical research. For example, studies which are replicable due to use of standardised procedures for collecting and analysing data can be repeated to check whether the findings are reliable. One example of this is the replication of Rosenhan's study conducted by Lauren Slater. It should be noted that the first part of the Rosenhan is replicable as all pseudopatients followed standardised procedure when presenting to the hospital admissions offices. However, once they had been admitted, there was no standardised procedure as the method was a naturalistic, covert participant observation and their participants merely behaved as they usually would while recording their experiences within the hospital. This part of the procedure lacked reliability as it cannot be replicated exactly.

**LINK**

For more on Rosenhan's study and Slater's replication go to Chapter 24, page 317.

Another way of assessing reliability is to use two observers or raters to 'code' or record the data. For example, in the contemporary study Hans and Hiller (2013) two researchers assessed the 'clinical representativeness' and 'methodological quality' of the studies included in their meta-analysis. They were in almost full agreement, meaning they had strong inter-rater reliability. This is a strength as it demonstrates that the criteria were applied consistently each time when assessing each study that made up the meta-analysis, thus improving the overall credibility and usefulness of the findings.

The contemporary study by Ma et al. (2014) demonstrates another type of reliability. They used questionnaires to gather quantitative data about core-self evaluations in their study of depression. The reliability of their findings was improved by using a questionnaire, the CSES that had previously been tested for internal reliability. Individual items all correlated with each other, suggesting the questions or items were consistently measuring the same underlying construct.

#### LINK

Refresh your understanding of Hans and Hiller (2013) and Ma et al. (2014) on pages 321–324 and 324–327.

One problem with reliability in clinical research is that mental and behavioural disorders can be very difficult to diagnose due to comorbidity and overlapping symptoms. This means that when studies are replicated with a different set of participants (or even the same participants) the findings may not be consistent. Although both studies may have used people diagnosed with schizophrenia or depression, the symptoms that these people experience may be very different and can change over time. Also, in studies which use qualitative data such as Becker et al. (2002), if the transcripts were to be re-analysed by a second rater, the emergent themes may be different. This is because the process of thematic analysis tends to be rather subjective.

#### SKILLS

INTERPRETATION, DECISION  
MAKING, ANALYSIS

#### ACTIVITY 2

To help you to revise, make a table of different ways of assessing the reliability of the data and/or findings of a study and different types of validity. Identify examples of research from the content and/or studies as examples of each.

Ways of assessing reliability	Examples
Inter-rater	
Test-retest	
Split halves	

Types of validity	Examples
Internal	
Predictive	
Ecological	

## VALIDITY

### EXAM TIP

When you are preparing for your exams, you need to understand the difference between internal and ecological validity. These are ways of evaluating research evidence. Try not to confuse these with terms used to refer to validity of diagnosis, such as aetiological and criterion validity. Note that predictive validity can be used to discuss measures such as questionnaires used in research studies and diagnosis. For example, a measurement has predictive validity if it can accurately predict some other outcome in the future, measured in a different way. For example, a test measuring self-esteem might be able to predict the severity of depressive symptoms using the DSM-5 in 12 months' time. The test of self-esteem would therefore have predictive validity. Likewise, a diagnosis of depression using the ICD-11 has predictive validity if it can accurately predict who will have a lower score on the 'global assessment of functioning' in six months.

### LINK

For more on aetiological and criterion validity go to page 272.

### Internal validity

Internal validity refers to the extent to which you have measured what you intended to measure. When applied to experiments, the intention is to measure the effect of an independent variable on a dependent variable. If you have not any uncontrolled, potentially confounding variables, you will have measured the combined effect of the independent variable and all these uncontrolled variables on your DV. This would mean that your study lacks internal validity. For example, in the study by Suzuki et al. they compared inpatients with schizophrenia with healthy controls in terms of the body mass index and a variety of nutritional variables. However, it was impossible to tell whether differences in the BMI and nutritional status was a result of being an inpatient, having schizophrenia or a combination. This is because they did not have a control group of outpatients with schizophrenia or inpatients with a different disorder. Poor internal validity reduces the usefulness of the findings and means that they cannot be used to establish causal relationships or make evidence-based suggestions about how to improve hospital practice.

Another problem with validity in clinical research is that often, in clinical practice, participants are not randomly allocated to treatment groups. This is because clinicians choose to refer to certain people for certain types of therapy, based on whether they think it will be successful or not. For example, clinicians would not refer a family for family therapy if they thought that not everyone would attend sessions as this would not be cost-effective. However, this means that research findings may give a more positive impression of the therapy than is actually the case for many families.

A final problem with validity in clinical psychology is that the studies often rely on self-reported symptoms using checklists and psychometric tests. Participants may find these difficult to complete if they lack self-awareness, meaning the findings may not be valid. They may also show social desirability bias and exaggerate improvement in symptoms if the researcher administering the questionnaire is the same person who delivered treatment for example. However, some studies have overcome this problem by using measures such as the Positive and Negative Syndrome Scale (PANSS) which combines clinician observations and self-report from both caregivers and patients. This is a form of triangulation and therefore improves the validity/credibility of the findings. Mark Opler and colleagues (2017) refer to this scale as the gold standard for assessment of antipsychotic treatment efficacy.

However, increased validity comes at a cost, as the scale takes a long time to administer and researchers/practitioners need a lot of training in its use to achieve an acceptable level of inter-rater reliability.

### **Ecological validity**

Ecological validity refers to the extent to which the findings of a study represent everyday life. As mentioned above, in Rosenhan, the main research method was naturalistic covert participant observation. Pseudopatients lived in the hospital wards, among real patients and staff. Their field notes suggest the staff were totally unaware that their behaviour was being observed, as there are records of patient abuse that happened in plain sight. This suggests that the qualitative data that was collected had high ecological validity. However, the pseudopatients were not real patients themselves and this may have interfered with the atmosphere on the wards. This is supported by the fact that other patients detected their presence which may have changed their behaviour, therefore reducing ecological validity.

An example of a study with arguably low ecological validity is the contemporary study by Reichel et al. (see pages 331–336). Here, participants viewed images of emaciation on a screen while varicous physiological measures were taken including the startle response, heart rate and skin conductance. Viewing such imagery under these highly controlled circumstances is far removed from how people with anorexia nervosa might view these images in everyday life. For example, they would have selected which images to look at on their own devices within their own home setting. They would not have been observed by others while viewing such imagery. This suggests that their physiological responses may be very different under more naturalistic conditions.

### **GENERALISABILITY**

When evaluating the generalisability of clinical research, you need to identify the sampling technique, the sample size and relevant characteristics of the participants. Random and stratified samples provide the most representative samples, as action is taken to try to ensure diversity within the sample and reduce sampling bias. Such techniques are rarely used, however, due to practical constraints on time and funding. Samples are far more likely to be opportunity or volunteer samples such as the 36 participants in the control group in the study by Reichel et al. (2014). These girls and young women all replied to adverts placed in newspapers, youth groups or on a university campus. All of these ways of recruiting participants limits the diversity of people who will apply. Also, the participants in the anorexia nervosa group were all from specific treatment programmes in Berlin, Germany. These people may not have been representative of people with anorexia nervosa in other countries or even other parts of Germany.

Small sample size also affects the generalisability of the findings; for example, the contemporary study by Reichel et al. (2014) only used 36 participants with anorexia nervosa and 36 controls. However, Zhao et al. (2016) included 10,000 participants in their meta-analysis of 56 RCTs on the efficacy of antipsychotics, increasing the likelihood of the sample being representative of the target population.

As well as looking at the sample size and technique used in the studies in this section, it is important to consider where the studies took place. For example, in the study by Suzuki et al. (2014) all inpatients with schizophrenia were Japanese and were inpatients at nine west coast hospitals. This means the findings cannot be generalised beyond this region of Japan where hospital policy may have been different from other areas of the country. An interesting example, regarding generalisability, are the schoolgirls used in Becker et al. (2009). These girls all spoke English as their first language, despite living in Fiji, and attended English-speaking schools. This suggests that the results may have been different in parts of the country that were less westernised.

**EXAM TIP**

When evaluating studies in terms of generalisability, always be sure to think about who the results can be generalised to (e.g. who are the target population?) as well as who they cannot be generalised to, and why. How might this affect the overall usefulness of the study?

**CREDIBILITY**

The credibility of clinical research is increased when researchers employ strategies which improve the trustworthiness of the data. How this is done is dependent on the research and methods employed. For example, meta-analyses are more credible when statistics such as funnel plots (see page 324) have been used to assess publication bias and also when grey literature is included (see page 62). The credibility of the meta-analysis conducted by Hans and Hiller (2013) was improved by the fact that they coded all studies to show their clinical representativeness and methodological quality covering areas such as low drop-out rate, intention-to-treat (ITT) analysis, formal diagnostic investigation (i.e. whether diagnoses were checked), minimum sample size of 30 and minimum follow-up length of 6 months.

Other ways of increasing credibility include the use of placebos and blinding procedures in randomised control trials (see previous page). However, one problem with this is that in practice blinding procedures sometimes break down and either researchers and/or participant(s) become aware of which group/condition they are in. This can sometimes happen in studies using inert placebos with participants who have previously taken similar medications, e.g. antipsychotics or antidepressants, and therefore know what side-effects to expect. When they don't experience any side-effects they become aware that they are in the control groups and their expectation of improvement decreases. One way that researchers have overcome this problem is to use active placebos. These are imitation drugs which contain active ingredients which cause similar side-effects to the real drugs, e.g. drowsiness, nausea. Active placebo studies of antidepressants have shown that the real drugs are only effective in 14 per cent of studies compared with 59 per cent when using inactive placebos (Fisher and Greenberg, 1995). This research has reduced the credibility of many of the older RCTs on the efficacy of antidepressants.

**OBJECTIVITY AND SUBJECTIVITY**

Some of the measures used to gather data in clinical psychology are highly objective as data is collected using precise scientific instruments including neuroimaging technology, electrocardiograms, electromyograms, skin conductance, blood, hair and urine samples. These sort of test results do not usually require much interpretation and therefore are free from bias. However, other types of data are more subjective. Diagnosis of patients would come into this category. Poor inter-rater reliability demonstrates the role of subjective judgement in this process. Data gathered through open questions in semi-structured interviews, for example, has to be interpreted and choices made about whether what the patients have shared is a good enough match for the criteria for a diagnosis to be made. As you revise the key studies in this unit, you may find other examples of subjectivity. One excellent example is the selectivity by Rosenhan's items of which observations he chose to include in his report. For example, the data collected by Harry Lando's data was ignored altogether as it did not fit with Rosenhan's expectations regarding the treatment of psychiatric patients in hospitals.

**ETHICS**

As you revise the key research in clinical psychology, you will find evidence of many ethical strengths and weaknesses. For example, in the classic research by Rosenhan (1973), the only permission that was gained for the pseudopatients' admission into the hospitals was for Rosenhan's own admission. Even then it was only with the hospital administrator and the chief

psychologist in one institution. It could be argued that the pseudopatients' actions affected the amount of attention given to those who were genuinely ill. However, the testimonies of the pseudopatients suggest this was not true as the staff had very limited contact with the patients. This was measured as an average of 6.8 minutes per day per pseudopatient to include admission, discharge and all medication, suggesting that this was not the case. Despite some of the ethical shortcomings of this study, the findings were arguably in the public interest, meaning the costs to hospital staff were outweighed by the potential benefits to society.

In double-blind placebo studies participants cannot give their fully informed consent as they are not allowed to know whether they are taking the placebo or the real drug. This means researchers must be very careful that participants are given detailed information so that they can make an informed decision about whether they want to be in the study. They must also be regularly reminded of their right to withdraw, in order to protect them from harm. In studies using wait-list control groups, these groups are also offered the experimental treatment, but at the end of the trial period. This helps to improve the ethics of the study, as all participants have the opportunity to try the alternative treatment, which may have significant benefits for their quality of life.

As the majority of studies in clinical psychology involve the collection of highly sensitive and personal medical data it is imperative that the highest standards are maintained with regard to the confidential storage of data. All studies must be approved by the university Ethics Committee or Institutional Review Board. For example, in Suzuki et al. (2014) they comment that the study was approved by the Ethics Committee at Niigata University Graduate School of Medical and Dental Sciences, while the study by Ma et al. (2014) was approved by the Guangdong Medical College Institutional Review Board. Informed consent was obtained from each participant.

### PRACTICAL APPLICATION OF FINDINGS

Clinical research into the causes of disorders such as schizophrenia, depression and anorexia nervosa have paved the way for the development of treatments and therapies which have helped people to avoid long-term hospitalisation and live in the community alongside family and friends. Treatments such as CBT have helped people to regain a sense of control in their lives and to improve their quality of life and daily functioning. In addition, family therapy supports the entire family to develop coping strategies, identifying and building on existing strengths and ensuring that everyone feels supported and heard.

#### CHECKPOINT

1. What does randomised mean in relation to a randomised control trial?
2. What is the difference between a placebo and a placebo effect?
3. What is the difference between an MRI and an fMRI?
4. Which sections of a published research study would contain the results of the study?
5. Where in a published research study would you expect to find the hypothesis/research question?
6. Can you name three things that a psychologist does each day to meet the standards of conduct, practice and ethics?
7. How could a psychologist show that they are 'open when things go wrong'?
8. What statistical test would you use if the experimental design was independent measures and the levels of measurement was nominal?
9. What type of graph is appropriate for a correlational study?
10. How could you improve the credibility of a meta-analysis?

**SKILLS**

PROBLEM-SOLVING, CRITICAL THINKING, ANALYSIS

**EXAM PRACTICE**

1. A clinical researcher is trying to decide whether to use a structural or a functional neuroimaging technique in her study. Suggest one reason why she might choose to use functional imaging rather than structural imaging. (2 marks)
2. Makoto is preparing for an interview for a new job working as a mental health nurse. He has been asked to give a short presentation to new colleagues about the HCPC guidelines. Explain two ways Makoto could help his new colleagues to demonstrate awareness of HCPC guidelines for clinical practitioners in the workplace. (4 marks)
3. Zuzanna is carrying out an observational study of nine people with schizophrenia who live independently in the community. She visits them at home before and after visits from their family. She asks them to complete a brief self-report questionnaire (minimum score 5 and maximum score 50) to assess the severity of their symptoms. Zuzanna is unsure whether seeing the families will make her participants' symptoms better or worse so she decides to use a non-directional hypothesis.
  - a) Explain one weakness of the experimental design that Zuzanna is using. (2 marks)
  - b) Zuzanna conducts a Wilcoxon signed ranks test to assess the significance of her findings. She achieved a T value of 4 and there were no zeros when the difference between the scores was calculated. Explain whether she should reject the null hypothesis or not. (2 marks)
4. Otakar is writing up a research study about cognitive problems in people with and without schizophrenia. He asks them to learn the positions of a number of objects in a VR environment and then to go back and find them after a short break. The participants are given a score out of 10 to show how many objects they correctly located within 1 minute. Otakar has asked for your advice about how to write up the method and results section of his report. Discuss the conventions of published psychological research with reference to Otakar's methods and results sections. (8 marks)

# CHAPTER 26 PRACTICAL

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- perform your own content analysis to explore attitudes to mental health
- explain ethical principles relating to your content analysis
- make design decisions when planning and gathering sources for a content analysis, including credibility of secondary data, ethical considerations, controls and reliability
- analyse at least two sources (e.g. radio interviews, newspapers, magazines) to compare attitudes towards mental health
- collect, present and comment on sources gathered
- consider strengths and weaknesses of a content analysis and possible design improvements
- complete the procedure, results and discussion section of a report.

## GETTING STARTED

Mental health literacy refers to knowledge and beliefs about mental disorders and ways to promote positive mental health (Jorm et al., 1997; Sampaio et al., 2022). If this knowledge is accurate it can help people to identify, manage and prevent disorders in themselves and others. If the knowledge is inaccurate it may lead to damaging stereotypes and discrimination which prevent people from seeking help and lead to more severe symptoms. Today, practically everything we know about mental health is available in seconds via smartphone technology, from open-access scientific journals to user-created content on social media. However, the credibility of some of this material may be questionable and highly subjective. Also, increased access to information does not necessarily mean that people's mental health literacy is improving or that it is helping to actually change attitudes or behaviours.

- What does it mean if information is credible? How can we determine the credibility of a source?
- Do you think access to information about mental health online has improved attitudes towards people with mental health issues?
- Who do you think this information has influenced the most, how and why?

Many young people obtain information about mental health online, but is access to information enough to change attitudes and reduce stigmatisation?



## EXPLORING ATTITUDES TO MENTAL HEALTH USING CONTENT ANALYSIS

This final practical investigation gives you the opportunity to research attitudes towards mental health through the analysis of two or more media sources. You could compare radio interviews for podcasts, newspaper, magazine or blog articles, clips from feature films or online videos, song lyrics or comment threads on social media. The sources that you choose may be fictional or nonfictional. Both are important in shaping people's attitudes and it is important to understand the wide range of messages the public receives about mental health. The purpose of this investigation is to teach you how psychologists use content analysis to analyse secondary data, which is information that has been collected for a purpose other than the current research.

### LINK

You first studied content analysis in Student Book 1, page 261 (Learning theories and development). Here, this method was described as an indirect observation, because you are not working directly with participants. In this investigation you will be analysing source material either in print/text form or spoken words and behaviour in films, videos and/or vlogs.

### WHAT IS CONTENT ANALYSIS?

Content analysis is a technique that involves reducing and making sense of qualitative data by searching for patterns and meaning (Patton, 2002). Hsiu-Fang Hsieh and Sarah Shannon (2015) identify two ways of conducting content analysis: conventional and directive.

### KEY TERMS

**bottom-up approach:** themes emerge from the text; the researcher does not begin with any preconceived ideas

**close reading:** thorough examination of a text to identify underlying themes and patterns; every phrase is carefully scrutinised to ensure that the researcher has captured all of the meaning conveyed

**data saturation:** the point at which no further themes emerge from a text

**top-down approach:** analysing a text using a set of predetermined code/themes

1. Conventional content analysis is a qualitative data analysis technique where the researcher systematically analyses (codes) the text to identify themes or coding categories, then tallies the frequency of each them. The following steps are used:

- the researcher uses **close reading** in which every phrase is given a label (code) that summarises what it is about; the same code can then be applied to other phrases that reference the same core idea
- researchers repeatedly read the text until they reach the point of **data saturation** when they feel there is no need to create any further coding units
- this is known as a **bottom-up approach** as the researchers do not begin with any codes, all codes arise from the data itself; it is also inductive as no theory is being tested, although the researcher may develop a theory as they code/analyse the data
- after data saturation, the researcher will then begin to organise the coding units into categories of similar concepts or ideas.

2. Directive content analysis is a qualitative data analysis technique where the researcher has a predetermined set of codes/themes which they systematically analyse the text and tally (count) the frequency of each code/theme. The following steps are used:

- the researcher still carries out close reading but this time the codes are pre-determined; this means that the researcher has already decided on keywords, themes or concepts of interest; these codes are usually based on pre-existing theory or research
- the researcher counts (tallies) examples of each code to see how frequently they arise
- this is a **top-down approach**.

You should decide whether you want to carry out a conventional or a directive content analysis. Before you can do this, you need to think about your research question – what are you hoping to find out?

### DESIGN DECISIONS

Research is all about making decisions. First, you will need to work out a research question. Next you will need to decide on the sources you wish to analyse, including thinking about their credibility. To ensure the credibility of your own findings you will need to consider ethics, controls and reliability of your analysis.

### Research question

Your research question must be about attitudes towards mental health. You could investigate how attitudes to mental health have changed over time or how different sources report mental health.

Example research questions include:

- 'Are there differences between attitudes towards mental health expressed on individual social media accounts compared with accounts belonging to organisations, e.g. charities or support groups?'
- 'How have attitudes towards schizophrenia (or depression or anorexia nervosa) changed over time?'

### PLANNING AND GATHERING SOURCES

You must analyse secondary data, meaning texts/sources that were created for a purpose other than research, e.g. an interview with a celebrity about their mental health which was part of a news bulletin or documentary. A text can be anything from a newspaper article, television or radio advert, chapter from a novel (fiction book), feature film, online video, social media posts, song lyrics.

You will need to choose two or more sources/texts to compare. If you are interested in using social media, use a platform that does not require account owners to accept a 'friend' or 'follower' request for you to access their content. This is important for ethical reasons – the material needs to be completely public in order for you to ethically use it in your analysis. Also, you should check your school's social media policy and discuss this with your teacher before you begin collecting any data.

You could also analyse newspaper or magazine articles about mental health. For example, you could compare articles in magazines targeted at women versus men, or in cheaper versus more expensive magazines.

Content analysis can be very time consuming. For this reason you should select short texts. For example, television or film clips of 5 to 10 minutes will be much more manageable than trying to analyse a whole film. If you are analysing very short texts, such as 15–60-second social media video posts or short comments, you might be able to analyse several examples.

### Controls

When you are selecting and analysing your texts you must think carefully about control in order to improve the credibility of your findings. For example, if you are comparing men's and women's magazines you might want to make sure that the articles are taken from magazines which are of similar price and targeted at people of a similar age. If you are comparing comments on online videos, you could try to use videos of roughly the same length or with similar amounts of 'likes' or comments.

#### EXAM TIP

In the exam you might be asked to explain how or why you 'gathered' the secondary data for your clinical practical. The question is likely to be for two marks but could be more. For this reason, it is sensible to gather (collect) together several sources and then choose two or more from the larger set of options. This means that you can talk about how and why you chose these particular sources.

### Ethical considerations

Ethical considerations differ when you are working with secondary data. It is not possible to gather informed consent from participants as you are not working directly with anyone. If you

are analysing a fictional text (imaginary events and people) there is no risk of psychological harm. However, if you are analysing texts written by or including real people, you should consider whether there might be any consequences of your analysis for the people whose words/behaviour you are analysing, or for others from groups that these people represent. For example, if you are analysing social media posts (and/or comment threads) you should use pseudonyms or numbers to protect users' anonymity. Even if posts and comments are made in forums or online spaces which you consider to be public, users have not consented to have their content analysed as part of a research study and they may believe that they are commenting to an audience that they consider to be closed and to some extent private.

## KEY TERMS

**internet-mediated research (IRM):**

any research that takes place online, e.g. communicating with participants via online questionnaire and virtual interviews, or involves analysis from online sources, e.g. social media

**latent content:** implicit or underlying meanings and insights within the text; these may reflect the participants' or authors' assumptions; identifying the latent content requires interpretation and is therefore more subjective and less reliable than the analysis of manifest content

**manifest content:** what the text actually says, e.g. the words and phrases which the researcher reads and tallies

## THINKING LIKE A PSYCHOLOGIST

Some countries have published specific ethical guidance for **internet-mediated research (IRM)**. You may find it interesting to read more about these guidelines.

## ANALYSING SOURCES

If you decide to carry out a directive content analysis, you will need to decide on a set of themes, concepts or ideas that you are going to look for in the texts/sources. For example, you might look for positive keywords such as 'advocate', 'empower' and 'support'. You could decide on these key words by analysing a few other texts before you complete the main data collection. This might be a small-scale conventional content analysis. Another way to decide which themes to focus on would be to talk to a small group of people (a focus group) who might be the target audience for the sources you are looking at, e.g. people who read the magazines you have chosen or users of the specific social media platform.

Once you have decided on the key words, you will first need to count (tally) the number of times they appear in each text. These could either be explicit mentions of the actual word or phrases which you believe match with this keyword/theme, e.g. if 'advocate' was one of your keywords, you might tally phrases such as 'speak out', 'promote', 'champion'. Once you have started your analysis, you can add more keywords if you need to. When you are analysing the actual content of the texts/course, this is called the **manifest content**.

## WIDER ISSUES AND DEBATES

**Practical issues in the design and implementation of research**

In order to be reliable and objective in the way the data is collected, clear operationalisation of your coding system is required. Coding units must be clear and unambiguous to remove potential sources of bias and allow other researchers to replicate your method and test the reliability of your conclusions. You will need to think about ways to ensure that raters are clear about how to code the source material. For example, you could have a practice text which has already been coded and ask raters to use this to help them to understand the codes and to apply them consistently (in the same way when coding all source material). Content analysis using keywords can be objective as you simply have to count how many times certain words have been used in the text/source; however, you need to be sure that the keywords you have chosen are a good measure of what you intend to record. You may also find that the same words are used in different contexts and will need a way of recording this.

When you have calculated the frequencies of the different keywords/themes, you should try to go beyond this superficial level of analysis and consider the **latent content**. Latent means underlying and in this case refers to the underlying meanings. Here you will need to look at the context of the keywords, themes or ideas. For example, Tables 26.1 and 26.2 both contain mentions of the key theme of stigma but the quotes on the schizophrenia video tended to be

more general regarding the need to break down stigma or prejudices held by people without mental health issues towards people with mental health issues. The comments about stigma in the depression analysis was about people with mental health issues stigmatising themselves. Also, both disorders had comments which used biological language such as doctors and illness but schizophrenia was talked about as an example of a disease whereas depression was being talked about as though it was not biological and was in fact a choice that people made if they did not choose to get treatment.

If you decide to conduct a conventional analysis, you do not need to choose a set of keywords, themes or ideas in advance, you just need to begin analysing your text and deciding on suitable codes (labels) for each segment of the text, e.g. sentence, part of a sentence. See Tables 26.1 and 26.2 for examples of codes or themes identified when coding viewers' comments on two online videos.

#### MATHS TIP

If you are tallying or counting up the number of times certain keywords, themes or ideas are mentioned in one type of source compared with another, you are collecting nominal data. This can be presented as percentages of the total number of mentions. For example, imagine you are comparing comments on social media posts about schizophrenia and depression. You could use a random number generator to select ten comments from each thread to analyse (see Table 26.1). You can easily calculate the percentage of comments that fall into each category, e.g. 'Admiring achievement'  $3 \text{ (number of comments)} / 10 \text{ (total number of comments)} = 0.3 \times 100 = 30$  per cent. You could work out the most commonly occurring category of comment. Here we have two modes ('admiring achievements' and 'stigma') both with 30 per cent of the comments.

TABLE 26.1: ONLINE VIDEO OF A PRESENTATION BY A PERSON WITH SCHIZOPHRENIA

Code/theme	Tally	Examples	Percentage
Admiring achievements	III	'Achieving <u>everything she has achieved</u> ' 'She is the real <u>superhero</u> ' ' <u>Amazingly strong person</u> '	30%
Biological language	I	'Having this <u>disease</u> '	10%
Friends/relatives with same condition	II	'My <u>great aunt</u> had schizophrenia' 'My <u>son</u> developed schizophrenia in his freshman year'	20%
Stigma	III	'It was so heartbreaking to hear <u>how she was treated</u> in the 1950s' 'Thank you for sharing your story and <u>breaking the stigma</u> ' 'From a mother, thank you for speaking up and <u>breaking the silence</u> on living with schizophrenia'	30%
Media portrayals are unhelpful	I	'I think schizophrenia has been <u>demonised in movies</u> '	10%

TABLE 26.2: ONLINE VIDEO OF A PRESENTATION BY A PERSON WITH DEPRESSION

Codes/theme	Tally	Examples	Percentage
Treating physical and mental health differently	I	'I don't get why if I have <u>a fever</u> or if I'm just <u>sick</u> I can miss a day of school but if I have <u>depression</u> I can't'	10%
Biological language	II	'Depression is not a mental <u>illness</u> '  'The only reason <u>doctors</u> say that depression is a mental <u>illness</u> is to make money'	20%
Depression is a choice	I	'People with depression can be helped, it's just <u>choosing</u> to be helped'	10%
Perceived lack of support	II	' <u>My family</u> says nothing is "wrong" with me but yet <u>they don't try talking to me</u> about how I feel or anything'  'I have <u>told some of my friends</u> about my <u>struggles</u> and nobody reached to help me, they just listened, tried to briefly cheer me up, and... that's it!'	20%
Perceived importance of support	I	'I understand <u>how much it can mean</u> to someone when their <u>parents</u> are supportive'	10%
People should not share experience of depression online	II	'If people carry on <u>sharing this sadness</u> it's only going to <u>make people more depressed</u> '  'If people keep on <u>talking about depression</u> as if it's the norm, <u>people are going to view it as the norm</u> '	20%
Stigma	I	'I read an article that said " <u>no one</u> <u>stigmatises</u> depression more than the depressed one'''	10%



Coding units need to be clear and unambiguous otherwise inter-rater reliability may be poor. How could you make sure that both raters are clear about how to code the sources?

## WIDER ISSUES AND DEBATES

### Issues related to socially sensitive research

Think about the possible impact of your findings on different groups in society. For example, if you found that certain groups of people have more negative attitudes than others, this might cause conflict/tension if the findings were made public. Be careful not to overstate your findings. When writing up your report, keep your tone/style of writing scientific and tentative, e.g. 'These findings suggest that ...'. Remember, content analysis can be subjective and therefore it is essential that you find ways to check the reliability of your analysis. How could you do this?

### Checking for reliability and validity

If you are able to, you could ask an expert in clinical psychology to have a look at your list of keywords/ideas/themes. Maybe you know someone who is a mental health practitioner or social worker who could help you to decide if your suggestions are valid or whether you might have missed something. To check the reliability of your analysis, you could work in pairs and both analyse the same texts to see whether there is a good level of agreement between you about the wording of the codes and their frequency. If agreement is low, this means your analysis is subjective. You may wish to work together to decide on some clearer guidelines about when a certain code should be applied and when it should not. If you are analysing social media comments, you may wish to have a rule about which comments should be analysed and which should not, e.g. comments below a certain number of words.

## COMPLETE THE PROCEDURE, RESULTS AND DISCUSSION SECTION OF A REPORT

### LINK

Revisit the conventions for published psychological research on pages 342–345. This should help you to decide what you need to include in the procedure, results and discussion sections of your clinical practical.

Your procedure section should explain:

- how you selected your sources, e.g. why certain sources were chosen and why others were rejected
- whether the analysis was conventional (bottom-up) or directive (top-down) and why
- if the analysis was directive, how you chose your predetermined keywords, themes or ideas
- how you decided whether you needed to add new codes (keywords/themes etc); include examples in your procedures of pieces of text which were difficult to code and how you decided what to do about this
- how you tested for reliability, e.g. inter-rater reliability.

Your results section should include:

- tables of percentages and examples such as those shown above
- bar charts comparing frequency of different themes across the two or more sources that you analysed.

Your discussion section should include:

- a summary of your findings and conclusions
- links to any theories or other research studies that inspired your practical, for example content analysis was the main research method in studies by Patricia Owen (2012), on portrayals of schizophrenia in film, and Darragh McCashin and Collette Murphy (2023) on social media and public and youth mental health
- evaluation of your practical including strengths and weaknesses relating to reliability, validity, subjectivity, objectivity, credibility, ethics and practical applications
- suggestions of ways to improve your content analysis.

## STRENGTHS, WEAKNESSES AND IMPROVEMENTS

A strength of content analysis as a way of investigating attitudes towards mental health is that it does not involve interacting directly with participants. As mental health is a sensitive topic,

people may not give their honest opinion if they are being interviewed or participating in a focus group; however, analysing secondary data gathered from anonymous online comments may provide insight into more extreme views which may be difficult to access in other ways. However, this can also be a weakness as although it helps to gather data from people who may not otherwise volunteer for a project on mental health, it does mean that the views may not be representative of the majority of people. For example, internet trolls sometimes make extremely controversial comments and the motivation for this may be simply to generate interest on a particular thread. These trolls may not even be actual people – the content of such comments may be generated by AI (artificial intelligence), meaning the views are not a valid source of data.

A weakness of content analysis is that it can be subjective. Conventional (bottom-up) analysis involves coding content in the absence of any predetermined categories or themes. This means that the analysis may be biased. If another researcher codes the same sources, the emergent themes may be very different owing to the researcher's differing interpretations of the material. Even with directive (top-down) content analysis, researchers may differ with regard to how individual phrases are coded. This would mean that the analysis may be unreliable.

Once you have conducted your own content analysis you will need to think about the strengths and weaknesses of the design decisions that you made, including how the sources were gathered and analysed. You should also try to think of some ideas for how you could have improved your investigation.

## SKILLS

TEAMWORK, EMPATHY/  
PERSPECTIVE TAKING,  
CREATIVITY

## ACTIVITY 1

If you worked as a group when carrying out your practical, play a game to help you with the evaluation. Take it in turns to privately roll a dice. Even numbers mean you have to give a strength and an odd number means you have to give a weakness. Now roll again, this time the number will determine whether you have to make a point about generalisability (1), reliability (2), validity (3), objectivity (4) or subjectivity (5). If you roll a six you can make any point you want. Other group members should not be allowed to see the numbers that have been rolled. Once everyone knows the type of point that they need to make, points should be written down without discussing them. Most importantly, you must not reveal whether your point is a strength or a weakness or which evaluation you are writing about. Once everyone has finished, read your points to the group to see whether they can guess what you rolled (e.g. even or odd and which number). You could also swap your pieces of paper and try to improve each other's point, for example by making the point less generic and including key details from your investigation or adding a competing argument.

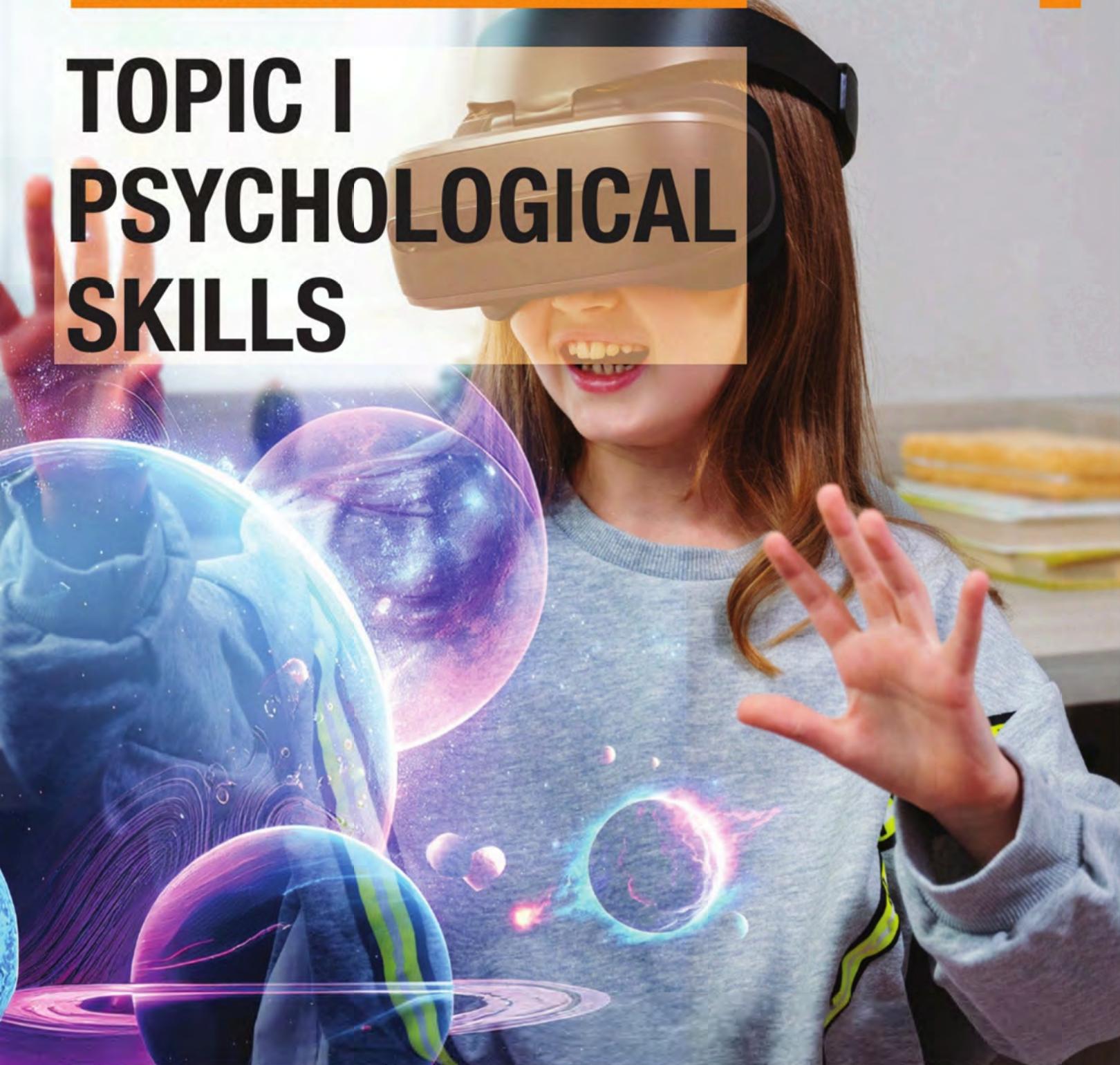
## CHECKPOINT

1. What was the aim of your clinical practical investigation?
2. What is meant by close reading?
3. How would you know when data saturation has been achieved?
4. How did you decide on which sources to analyse?
5. What is the difference between conventional and directive content analysis?
6. Which code, keyword or theme was most common in your content analysis?
7. What type of descriptive statistics are suitable for nominal (category) data?
8. How did you check the reliability of your content analysis?
9. Can you think of one way that you could have improved the objectivity of your analysis?
10. How could you improve the generalisability of your findings?

**SKILLS**COMMUNICATION, ANALYSIS,  
CRITICAL THINKING**EXAM PRACTICE**

1. Describe the aim of your clinical psychology practical investigation. (2 marks)
2. Explain one strength and one weakness of your clinical psychology practical investigation. (4 marks)
3. Explain one way that you could improve the validity of your clinical psychology practical investigation. (2 marks)
4. Assess the credibility of your clinical psychology practical investigation. (16 marks)

# TOPIC I PSYCHOLOGICAL SKILLS



The second part of Unit 4 is a synoptic section. Synoptic basically means ‘seeing it all together’. Here you will take an overview of all of the methods psychologists use to investigate psychological topics and key issues and debates which affect much of their research. You will need to be able to use everything you have learned throughout the course to answer questions in this section of the Paper 4 exam. The only new information in this unit is a consideration of two new key questions, one for Developmental psychology and one for Clinical psychology.

# CHAPTER 27 METHODS

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- types of data including qualitative and quantitative, primary and secondary
- research methods including experiments and experimental designs, correlational research, observation, questionnaire and interviews
- additional research methods and techniques including twin studies, animal experiments, case studies, brain scanning/neuroimaging, randomised controlled trials (RCTs), content analysis, clinical interviewing, ethnographic fieldwork, longitudinal, cross-sectional and cross-cultural research and meta-analysis
- sampling techniques, hypotheses and control issues
- descriptive and inferential statistics and the analysis of qualitative data
- methodological issues including validity, reliability, generalisability, objectivity, subjectivity and credibility
- conventions of published psychological research and the process of peer review
- ethical issues in research using humans and animals, including UNCRC, HCPC guidelines, the Scientific Procedures Act 1986 and Home Office Regulations.

## GETTING STARTED

In the last decade, mindfulness has grown in popularity in the minority world. It has been built into school curriculums, integrated into cognitive therapy for a range of disorders, used to reduce workplace stress and even introduced into prisons to help inmates to manage negative emotions (e.g. Bouw et al., 2019). This level of interest is also reflected in academic research. Google Scholar suggests that over 20,000 papers were published on mindfulness in 2023 alone. However, Professor Katherine Weare (2018) encourages critical thinking when examining the credibility of much of the existing evidence. She comments on numerous problems with the research in this area. Weare's comments demonstrate the importance of having a sound understanding of the strengths and weaknesses of a wide range of methods and of maintaining a healthy sense of scepticism when considering research findings.

- Weare lists at least eight weaknesses with mindfulness research. What do you think they are? Make a list.
- Do you think it is possible to be too cautious when it comes to thinking critically?
- If you were a mindfulness researcher how would you reply to the criticisms you have noted above?



▲ Journal editors are keen to publish articles on the benefits of mindfulness but Professor Katherine Weare warns against the hazards of accepting findings uncritically

## PSYCHOLOGICAL RESEARCH METHODS

Throughout your course you will have learned about a variety of psychological research methods used to investigate behaviour, methodological issues and ways of analysing data. You will have also conducted your own practical investigations using a variety of research methods, procedures and data analysis techniques. In Paper 4, you will need to apply your methodological and statistical knowledge, understanding and skills to a variety of extract questions, similar to those seen in Papers 1–3.

Table 27.1 shows where each method has been covered (in the compulsory topics A–E and H and the optional topic where you study one of F or G). Use this table to guide your revision of Topic I and consider ways in which this knowledge could be drawn upon for Paper 4.

TABLE 27.1: OVERVIEW OF METHODS COVERED

Methods	Topics where you learned about these	You will need to be able to:
Types of data: qualitative and quantitative data, primary and secondary data.	A	Identify each type of data, when they are appropriate to use and their strengths and weaknesses.
Sampling techniques: random, stratified, volunteer and opportunity.	A	Identify each sampling method, when they are appropriate to use and their strengths and weaknesses.
Experimental/research designs: independent groups, repeated measures and matched pairs.	B	Identify each type of design, when they are appropriate to use, their strengths and weaknesses and how the limitations of use may be overcome.
Hypotheses: null, alternate, experimental; directional and non-directional.	A, B	Identify alternate/experimental and null hypotheses and whether they are directional or non-directional, and write your own fully operationalised experimental and alternate (correlational) hypotheses.
Questionnaires and interviews: open, closed (including ranked scale questions); structured, semi-structured and unstructured interviews; self-report data.	A, E, G	Identify types of questionnaire/interview and question types, write different question types, understand how different types of data are generated and how they are analysed; understand the strengths and weaknesses of self-report data, and apply this knowledge to unseen investigation examples.
Experiments: laboratory and field; independent and dependent variables.	B, F	Identify and understand the differences between laboratory and field experiments, their main features and how they are conducted; understand their strengths and weaknesses, and apply this knowledge to unseen study examples; identify, suggest and operationalise independent and dependent variables.
Observations: tallying, event and time sampling, covert, overt, participant, non-participant, structured observations, naturalistic observations, gathering both qualitative and quantitative data.	D	Identify and understand the differences between types of observation, and their associated strengths and weaknesses; suggest clearly operationalised behavioural categories and understand how behaviours are tallied; identify and be able to suggest appropriate sampling (time and event) as used in an observation; apply your knowledge to unseen investigation examples.
Correlation research: type of correlation; positive, negative and use of correlations including issues with cause and effect and other variables.	C	Identify and understand the differences between experimental and correlational research, with reference to cause and effect; identify positive and negative correlation on a scatterdiagram, be able to comment on their strength and relate this to correlation coefficients; apply understanding to an unseen investigation examples, including suggesting other relevant variables which may explain correlational findings.

(Continued)

TABLE 27.1: OVERVIEW OF METHODS COVERED (*Continued*)

Methods	Topics where you learned about these	You will need to be able to:
Twin studies and aggression.	C	Identify, describe the main features of and evaluate additional research methods and techniques in terms of strengths and weaknesses; use your knowledge of each method to suggest ways of devising investigations based on the research method; understand methodological and design issues associated with each research method and technique; apply your knowledge of each additional research method and technique to unseen investigation examples.
Animal experiments.	D, G	
Case studies as used in different areas of psychology including case studies of brain-damaged patients in relation to memory.	B, D	
Brain scanning/neuroimaging, structural: CAT, and functional: PET, fMRI.	C, H	
Randomised controlled trials (RCTs).	H	
Content analysis.	D, H	
Clinical interviewing.	E	
Ethnographic fieldwork when getting data with children.	E	
Longitudinal and cross-sectional research.	E	
Cross-cultural research.	E	
Meta-analysis.	E	
Control issues: counterbalancing, randomising and order effects.	B	Identify and understand the control issues, recognising when they can be a potential problem for an investigation, and suggest ways of overcoming them; identify and suggest possible variables that may apply to an unseen investigation example, and how they can be overcome/controlled; identify and suggest how to operationalise variables in an investigation and the validity of operationalisation.
Experimenter/researcher effects.	A, B	
Social desirability and demand characteristics.	B	
Participant, situational, extraneous and confounding variables, operationalisation of variables.	B	
Descriptive statistics (List A): measures of central tendency (mean, median, mode), frequency tables, summary tables, graphs (bar chart, histogram, scatter diagram), normal and skewed distribution, sense checking data, measures of dispersion (range, standard deviation), percentages, ratios and fractions.	A, B, C, D, E, F, G, H	Identify and use appropriate descriptive statistics, draw appropriate graphs and tables, interpret data presented as descriptive statistics, calculate descriptive statistics (using formulae where appropriate); understand what type of data is being presented as descriptive statistics and how to appropriately present different types of data; compare different data sets to draw conclusions; apply your knowledge of descriptive statistics to an unseen investigation example.

*(Continued)*

TABLE 27.1: OVERVIEW OF METHODS COVERED (*Continued*)

Methods	Topics where you learned about these	You will need to be able to:
Inferential statistics (List B): levels of measurement, appropriate choice of statistical test, directional and non-directional testing, use of critical value tables, one- and two-tailed testing, levels of significance, including knowledge of standard statistical terminology such as p equal to or greater than ( $p \leq .10$ $p \leq .05$ $p \leq .01$ ); rejecting hypotheses, the relationship between significance levels and p values, observed and critical values, type I and type II errors.	B, C, D, E, F, G, H	Identify and interpret data at different levels of measurement, and how they should be analysed and presented; identify appropriate statistical tests and the reasons for their use; relate directional and non-directional hypotheses to one- and two-tailed testing; use the correct column of critical values for a one and two-tailed test at a given significance level; use critical values tables to interpret the significance of a statistical test; compare observed and critical values; understand probability and the meaning of symbols related to probability in order to relay a statistical conclusion; identify and understand Type I and Type II errors at a given significance level, and relay this in percentage form to convey the likelihood of an error being made; apply your knowledge of inferential statistics to an unseen investigation example.
The criteria for and use of the Wilcoxon's.	B	
The criteria for and use of the Spearman's.	C	
The criteria for and use of the chi-squared (for difference).	D	
Methodological issues: validity (internal, predictive, ecological), reliability, generalisability, objectivity, subjectivity, credibility.	B, E, F, G, H	Describe and identify different methodological issues and how they could be overcome. Use methodological issues to evaluate data; apply your knowledge of methodological issues to an unseen example.
Analysis of qualitative data; thematic analysis.	A, D	Identify qualitative data analysis and understand how it is conducted and analysed; evaluate qualitative data in terms of strengths and weaknesses; apply your knowledge of qualitative data to an unseen investigation.
Conventions of published psychological research: abstract, introduction, aims and hypotheses, method, results, discussion, the process of peer review.	H	Identify the sections of a psychological report and understand their purposes; select appropriate material for each section of a report; understand the purpose and process of publishing psychological reports and the strengths and limitations of peer review.

(Continued)

TABLE 27.1: OVERVIEW OF METHODS COVERED (*Continued*)

Methods	Topics where you learned about these	You will need to be able to:
Ethical issues in research using humans (BPS Code of Ethics and Conduct, 2009), risk assessment when carrying out research in psychology.	A, E, F	Identify, describe and explain the purpose of ethical guidelines and risk assessment in psychological research on humans; understand how to overcome ethical issues; apply your knowledge of ethical issues to an unseen investigation example.
The UNCRC and participation versus protection rights when researching with children and ethical issues when children are the participants.	E	
Health and Care Professions Council (HCPC).	H	
Ethical issues in research using animals (Scientific Procedures Act 1986 and Home Office Regulations).	D, G	Identify, describe and explain the purpose of guidelines and legislation associated with animal research in psychology; apply your knowledge of ethical issues to an unseen investigation example.

**SKILLS**ANALYSIS, CRITICAL THINKING,  
EVALUATION**ACTIVITY 1**

Take a look at the ranked scale questions in the image overleaf (Figure 27.1). They are from the Strengths and Difficulties Questionnaire (SDQ) used by O'Connor et al. (2013).

1. What levels of measurement is this data?
2. If you were comparing children's scores on this questionnaire before and after a parenting intervention, which statistical test would you use and why?
3. Can you think of any ways the questions could be improved? Write your examples down as they could be helpful to explain points further in the exams.



Many skills are required to gain meaningful data from interviewees. Can you think of any factors which might decrease the validity of the data obtained in an interview?

Strengths and Difficulties Questionnaire	Not True	Somewhat True	Certainly True
1. Considerate of other people's feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Restless, overactive, cannot stay still for long	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Often complains of headaches, stomach-aches or sickness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Shares readily with other children, for example toys, treats, pencils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Often loses temper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Rather solitary, prefers to play alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Generally well behaved, usually does what adults request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Many worries or often seems worried	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Helpful if someone is hurt, upset or feeling ill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

► Figure 27.1 Sample questions from the Strengths and Difficulties Questionnaire (SDQ) (Goodman and Scott, 1999)

## SKILLS

ANALYSIS, CRITICAL THINKING,  
EVALUATION

## ACTIVITY 2

For each of the developmental psychology studies in Table 27.2 below, write a strength and/or a weakness relating to the effect of the sampling technique on the representativeness of the sample and the generalisability to the target population. You may wish to revisit the studies, to remind yourself of the details. This will help you to avoid creating generic answers and demonstrate your knowledge, not only of sampling but also of the studies themselves.

TABLE 27.2: DEVELOPMENTAL STUDIES FROM PREVIOUS TOPICS

Study	Page	Sampling technique	Description
Rutter et al. (2007)	See page 14	Random sample selected from records of legal adoptions held by the Department of Health and Home Office records in the UK.	Long-term effects of privation in Romanian orphans.
Bowlby (1944)	See pages 11–14	Opportunity sample of children referred to a child guidance clinic in London, UK. Children were not typical of children whose crimes come to court (e.g. too young to be legally charged or chronic offenders).	Maternal separation experiences and affectionless psychopathy in juvenile thieves.
Hazan and Shaver (1987)	See page 10	Volunteer sample of readers of <i>The Rocky Mountain News</i> , a daily newspaper published in Colorado, USA.	Data gathered using <i>The Love Quiz</i> to investigate adult attachment styles and recall of parenting experiences.

**LINKS**

To refresh your understanding of any of the maths calculations needed in your answers, see the following:

- median, Student Book 1, page 47
- standard deviation, page 196
- percentages, Student Book 1, page 52
- ratios and fractions, Student Book 1, page 54

**CHECKPOINT**

1. Why might a clinical psychologist prefer to use secondary rather than primary data?
2. Which sampling technique is most representative?
3. Why might a clinical psychology researcher prefer to use a repeated measures design to an independent groups design?
4. Which of the following questions from the Adult Attachment Interview (AAI) is open and which is closed?
  - a) Which parent did you feel the closest to?
  - b) Why isn't there this feeling with the other parent?
5. Why might a criminological or health psychologist prefer to conduct a laboratory experiment to a field experiment?
6. Why might a psychologist conduct a correlational study rather than an experiment? (Use an example from Criminological or Health psychology.)
7. How might a clinical psychologist interpret their results if concordance rates for a disorder are similar for monozygotic and dizygotic twins?
8. What are the main differences between PET scans and fMRI?
9. How might a psychologist operationalise the variable of social competence?
10. Why might a researcher choose to use the median rather than the mean as their measure of central tendency?

**SKILLS**

ANALYSIS, CRITICAL THINKING,  
REASONING

**EXAM PRACTICE**

1. Joti is conducting a study to evaluate the effectiveness of a mindfulness-based intervention (MBI) at a local high school. She believes that the impact of MBIs on social and emotional competence depends on the psychological wellbeing of the teachers who deliver the sessions. Her data is in the table below (see Table 27.3). She used self-reported questionnaires to measure the students' social and emotional competence. She also used a questionnaire to measure the teachers' wellbeing. She calculated the median and then sorted the teachers into two groups - those who scored above the median and those that scored below the median.

Explain two conclusions Joti might make based on the data from her investigation. (4 marks)

TABLE 27.3: SELF-REPORTED SOCIAL AND EMOTIONAL COMPETENCE FOR STUDENTS RECEIVING A MBI

	Psychological wellbeing of the teachers delivering the MBI sessions			
	Above average		Below average	
Students' self-reported social and emotional competence	Mean	Standard deviation	Mean	Standard deviation
Pre-MBI	27.9	6.9	25.3	5.4
Post-MBI	35.8	4.5	22.9	2.6

2. Reema thinks that babies who attend daycare or nursery are more likely to be insecurely attached than babies who are cared for in their own homes by a parent or a nanny. She carries out the Strange Situation Procedure on a group of 68 babies to find out (see

Table 27.4). She decides to conduct a chi-squared test to see whether the difference is significant (see Table 27.5).

TABLE 27.4: SECURITY OF ATTACHMENT IN BABIES CARED FOR AT HOME VERSUS BABIES WHO ATTEND DAY CARE.

	Home care	Day care
Secure attachment	25	16
Insecure attachment	18	9

TABLE 27.5: REEMA'S CHI-SQUARED CALCULATION

		Observed	Expected	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
Secure attachment	Home care	25	25.9			
	Daycare/ Nursery	16	15.1			
Insecure attachment	Home care	18	17.1			
	Daycare/ Nursery	9	9.9			
						chi-squared =

- Justify why Reema used a chi-squared test on her data. (3 marks)
- Copy out Table 27.5 and complete it. Calculate the chi-squared test for Reema's data. The formulae and statistical tables can be found in Student Book 1, page 265. (4 marks)
- Using the statistical table in Student Book 1, page 265, explain whether Reema's findings are significant. (2 marks)

3. Carlos runs nature walks for older adults with depression. Group members have commented that they feel much calmer after their walks and believe that it is helping them to think more clearly. Some have said they are sleeping better and have greater motivation since attending his sessions. Carlos decides to conduct a longitudinal study to investigate whether depressive symptoms are reduced after attending his group nature walks for eight weeks.

- Explain how Carlos could carry out his study. (4 marks)
- Write a suitable directional hypothesis for the study that you have designed. (2 marks)
- Carlos analyses his result using a statistical test. His results show that  $p > 0.05$ . Explain what is meant by  $p > 0.05$  with reference to Carlos' study. (2 marks)

4. Hiriko conducted a correlational study and found a positive correlation between frequency of social media use and social anxiety symptoms. She collected her data using standardised questionnaire with ranked scale questions. She carried out a Spearman's rho to check the significance of her findings. Her observed value was +0.42. She conducted a two-tailed test and had 15 participants. The critical value for 15 participants for a two tailed test at 0.05 level is 0.521.

- Give an example of a ranked scale question which might be included in a questionnaire to measure frequency of social media usage. (1 mark)
- Explain whether Hiriko should retain her null hypothesis or not. (2 marks)

# CHAPTER 28 KEY QUESTIONS IN SOCIETY

## LEARNING OBJECTIVES

By the end of this chapter you should be able to:

- describe one key question for society relating to developmental psychology
- apply concepts, theories and research from topics A–E and H to answer this key question
- describe one key question for society relating to clinical psychology
- apply concepts, theories and research from topics A–E and H to answer this key question.

## GETTING STARTED

In 2015, the 193 member states of the United Nations agreed on seventeen Sustainable Development Goals (SDGs) including action on climate change, ending hunger and poverty and improving access to healthcare and education for all. These goals were identified by asking key questions about what is important to modern society and the future of the planet. Globally-minded psychologists are now trying to answer those questions, through information sharing and collaborative research. You too will have the opportunity to apply what you have learned to answering questions about issues affecting individuals, families and communities across the world in Section D of your Unit 4 exam. Before becoming too involved in crafting answers, take a moment to consider the words of French anthropologist Claude Levi-Strauss: 'The scientist is not a person who gives the right answers, they are the one who asks the right questions.'

- What do you consider to be the most important questions that need answering to improve the lives of people in your local community?
- Do these questions differ from those that are important for the global community?



▲ Information sharing and collaborative research: 'Where psychology directs its energies toward shared efforts, the ability to help improve lives is extraordinary' (Clinton, 2023)

**EXAM TIP**

In Paper 4 you will be presented with a key question relating to one of the compulsory units, e.g. Topics A–E or H. You cannot be asked a key question about topics F and G as these are option topics.

In Section D of your Unit 4 exam, you will be presented with a short extract which describes a key question for society. This is an ‘unseen’ element of the exam, meaning you will not know what this extract will be about in advance. It could be about any topic from risk-taking to dyslexia. Often the topic will be something that you have not studied before. Sometimes there is a more obvious link to the specification, such as prejudice or reconstructive memory. These questions are always worth eight marks with the command term ‘discuss’. This means that you are expected to combine AO1 (knowledge and understanding) and AO2 (application) in equal proportion in your answer. You should spend about 10 minutes on your answer and write around 200–250 words. Questions may ask you to draw on specific topics such as Biological or Social psychology, however, this is unusual. Typically you will be told that you can use concepts, theories and research from across the whole of your psychology course.

This section contains two example questions relating specifically to Developmental psychology and Clinical psychology with suggestions about how you could answer them.

**KEY QUESTION 1**

Developmental psychology: Is increased use of smart devices affecting cognitive and/or language development?

One key question for society is whether increased use of smart devices is affecting children’s cognitive and language development. Researchers agree that language development is dependent on social interactions between infants and more experienced language partners including siblings, parents and other caregivers. Turntaking appears to be more important than the number of words a child hears (Romeo et al., 2018). Reed et al. (2017) have used the term ‘technoference’ to refer to disruption to parent-child interactions caused by digital media during play, book reading and meal times for example. A recent meta-analysis ( $n = 18905$ ) found a significant negative correlation between hours of screen time and background television and language skills. However, educational programmes and co-viewing were associated with stronger language skills (Madigan et al., 2020).

Discuss the key question of whether increased use of smart devices is affecting children’s cognitive and language development. You should use concepts, theories and/or research studied in your psychology course. You must make reference to the context in your answer. (8 marks)

The best way to tackle a question like this is to think of all the different topics that you have learned about and select the ones that you think are most relevant. You could draw a brain-map before you start. This extract is about cognitive and language development which is part of the developmental topic (E). Some key concepts from this topic include:

- zone of proximal development;
- more knowledgeable others;
- scaffolding;
- Chomsky and the language acquisition device (LAD);

- the language acquisition support system (LASS);
- Skinner and operant conditioning.

Start your response by taking small pieces of the extract and saying 'So what?' to yourself. If this part of the extract is true, then what else must also be true? Follow this up with a link to something relevant that you have learned about in psychology. Occasionally, and as time allows, try to inject a competing argument into your work. This means giving an alternative point of view. Signpost these points to the examiner using phrases like 'However,' 'But,' and 'This said...'. Key questions do not require an overall conclusion or judgement, and this is because the command term is 'discuss'. With all other eight-markers, conclusions are critical.

Table 28.1 below gives an outline of how to structure your answer and some points you could include. The first column provides ideas for your AO2 application to the extract. The highlights indicate the importance of elaborating on the implications of the points that you are making. The second column presents relevant AO1 points that are clearly linked to the AO2 points on the left. When structuring your eight-marker it is a good idea to make an AO2 point and then follow it with some relevant AO1 so you need to read each row from left to right. The final column provides competing arguments, meaning ideas that contrast with the AO1 on the left. You do not need competing arguments for every point but you will need to ensure that you include at least one.

TABLE 28.1: PLANNING AN ANSWER TO KEY QUESTION 1: IS INCREASED USE OF SMART DEVICES AFFECTING COGNITIVE AND/OR LANGUAGE DEVELOPMENT?

AO2: 'so...'	AO1: Key concepts, theories and research	Competing argument (as time allows)
Romeo says turn taking is important <i>so...</i> distracting notifications should be turned off so that parents are always ready to take their turn.	Skinner's operant conditioning theory supports this idea, as he states that verbal behaviour is shaped through rewards, e.g. language partner's interest and praise.	Not applicable.
Technoference could capture the child's attention <i>so...</i> they might lose interest in the conversation or become over-stimulated.	Scaffolding could break down and the child may fail to engage in joint attention so progress through the zone of proximal development is slower.	Not applicable.
Research showed that high screen time was associated with low language skills <i>so...</i> parents should avoid distracting children with smart devices and talk to them about what is going on instead.	This is supported by the case of Jim whose parents used sign language but wanted him to speak; progress was slow despite watching many hours passively listening to language on television/radio.	However, this was a case study; Jim may have found language learning more difficult than other children.
However, high quality educational programmes were associated with stronger language skills (Madigan et al., 2020) <i>so...</i> hearing complex sentences on the television might sometimes increase language learning.	This links to Chomsky's idea of the LAD which suggests that children have to take in a lot of data before they start to find patterns in the surface structure and begin to understand the deep structure.	However, Madigan's findings were correlational; children that were more advanced language learners may choose to watch programmes with more complex language.

**KEY QUESTION 2**

Clinical psychology: How does self-stigmatisation affect people with schizophrenia?

One key question for society is how self-stigmatisation affects people with schizophrenia. Self-stigmatisation refers to negative attitudes and internalised shame that people with mental health issues have about their own condition. Henry et al. (2010) investigated how the social behaviour of people with schizophrenia changes when they believe that the person they are talking to either does or does not know about their diagnosis. Thirty individuals with schizophrenia had conversations with two confederates (without any mental health issues). The confederates were unaware that the participants had schizophrenia. However, before one conversation, the participants were informed that the confederate did know about their diagnosis. In the other, they believed the confederate did not know about their diagnosis. The confederates rated the participants' social skills as poorer and the conversations as less comfortable when the people with schizophrenia thought they were talking to someone who was aware of their condition. The researchers concluded that people with schizophrenia respond to 'stereotype threat' meaning they are aware of societal stereotypes about psychosis and this causes them to behave in ways which fulfil these labels. This study raises issues about self-disclosure of mental health issues and the importance of tackling self-stigmatisation.

Discuss the key question of how self-stigmatisation affects people with schizophrenia. You should use concepts, theories and/or research studied in your psychology course. You must make reference to the context in your answer? (8 marks)

This question is about people with schizophrenia and, therefore, you are likely to start thinking about concepts, theories and research from Clinical psychology. However, most key questions allow you to draw on knowledge across the whole of your psychology course. Think through each of the topics in turn - is there anything that might be useful from social, cognitive, biological and learning and development?

**EXAM TIP**

Sometimes, in questions like this it is useful to take the perspective of one of the people in the extract. Pretend that you are that person for a moment, try to imagine what they might be thinking and feeling. If you were a participant in this study and you were told, 'The person you are about to talk to knows about your diagnosis.' What would go through your mind? Maybe you would start trying to guess what they would be thinking, to do this you would call upon your schema of 'public knowledge' of schizophrenia/psychosis. This could be the start of an idea of something to write about; how could you weave schema theory into your answer?

Remember, just like last time, to start by reading the extract one sentence at a time and saying, 'So what?' at the end of every sentence. Your answers to these 'so what' questions will be your AO2. Next you will need to make a link to a concept, theory or research study from your course, from any Topic from A–E and H.

Table 28.2 overleaf gives an example, but remember these questions are your chance to be creative. Anything goes as long as you justify, or explain the reasons, for the link that you are making. This question was deliberately tricky and shows how concepts from Topics B and C can also be woven into your answer alongside ideas for Topic H. Remember to have fun with these questions!

TABLE 28.2: PLANNING AN ANSWER TO KEY QUESTION 2: HOW DOES SELF-STIGMATISATION AFFECT PEOPLE WITH SCHIZOPHRENIA?

AO2: 'so...'	AO1: Key concepts, theories and research	Competing argument (as time allows)
The idea of self-stigmatisation is related to internalised shame and so... people with schizophrenia may feel inadequate and incapable of functioning well in society.	Shame links with the idea that mental health issues are ultimately caused by external forces, possibly as a punishment for immoral behaviour or wrong doing.	Not applicable.
In Henry's study, the confederates were unaware of the participants' diagnosis and so... they were judging their behaviour fairly and not according to any preconceived ideas.	This is interesting as it contrasts with Rosenhan's study where the pseudo-patients did not have schizophrenia but the hospital staff thought they did so normal behaviours were seen as abnormal and conforming to expectations of how mental health patients should behave. In this case the patients were confirming their own prejudices about themselves.	Not applicable.
The participants thought that one of the confederates knew about their diagnosis and so... this may have made them feel that they were being judged and made them feel uneasy.	Mentioning their diagnosis before the conversation might activate the person's "public knowledge of schizophrenia" schema meaning they start retrieving psychosis-related language from long term memory, e.g. dangerous, freak.	This said, it is impossible to test schema activation objectively since this is an abstract concept and cannot be falsified. However, neuroimaging might help to show brain areas which were active in the diagnosis-aware versus unaware group.
Social skills were rated as poorer when the person believed their diagnosis had been disclosed. This shows that... negative thoughts can change our behaviour in ways that are observable to others.	Negative schema activation may trigger a stress response; adrenaline may have interfered with their prefrontal cortex causing the person to lose track of the conversation or show other odd social behaviours.	Although this is a biological response, it was the person's interpretation of the social situation which caused the change in behaviour - this is important as it shows that cognitive therapies and other ways of reducing stress may be helpful in preventing relapse.



Julie Henry and colleagues (2010) noted that conversational skills were poorer when people with schizophrenia thought others knew about their diagnosis. Why might that be? ➤

## SKILLS

CONTINUOUS LEARNING,  
SELF-DIRECTION, INITIATIVE

## ACTIVITY 1

If you look at the past papers for Unit 4 you will see that the key question extracts often have a short summary of some research that you are unlikely to have come across before. A good way to practise for this type of question is to regularly carry out some wider reading, e.g. the British Psychological Society 'Research Digest' which is freely available online and ideal for IAL students. Each time you come across some new research, think 'How can I link this to two or three concepts, theories and studies covered in class?' This will help to improve your cognitive flexibility, meaning your ability to use what you know confidently, creatively and on demand. These are just the skills you will need in Paper 4.

## CHECKPOINT

1. Which paper is the key question featured in?
2. What is the mark allocation for key questions?
3. How long should you spend on your answer?
4. Which assessment objectives (AOs) are you being graded on?
5. What is the only command term that can be used for this question?
6. Which two topics will not be the focus of the key question?
7. What is a useful phrase that will help you with your AO2 and use of the extract?
8. How many concepts, theories and/or research studies should you aim to introduce?
9. What is a useful word to signpost that you are about to bring in a competing argument?
10. Do key questions need a conclusion at the end?

## SKILLS

ANALYSIS, CRITICAL THINKING,  
REASONING

## EXAM PRACTICE

1. One key question for society is whether psychological knowledge can help in the understanding of factors that influence social development. Social development helps children engage and take part in social situations such as at home, at school and making friends. We can develop our identity, gender and culture through the interactions with the world around us. Adler and Adler (1998) studied children in the United States. They found that friends were very important, but some groups gained a higher status than others and certain members of the group had more power and influence than others. Some theories may suggest people are continuously presented with media messages and media content. This media could be manipulative, such as propaganda; or negative, as seen in concerns about media violence and aggression; but can also share positive messages, such as learning and educational television programmes made for children.

Discuss the key question of whether psychological knowledge can help in the understanding of factors that influence social development. You should use concepts, theories and/or research studied in your psychology course. (8 marks)

Paper 4 Edexcel IAL June 2023

2. One key question for society is whether bullying in the workplace can be reduced through improved working relationships. Fast and Chen (2009) claimed that workplace aggression appeared to be driven by ego defensiveness, when someone in power felt a sense of incompetence in their role. They claimed that this aggressiveness was eliminated when the individual's sense of self-worth was boosted. It could be suggested that the nature of the relationships between people in the workplace is important in reducing experiences of bullying. Findings from a survey by O'Moore and Lynch (2007) showed that 72% of non-bullied respondents reported their work environment as friendly, but only 47% of bullied respondents reported their work environment as friendly.

Discuss the key question of whether bullying in the workplace can be reduced through improved working relationships. You should use concepts, theories and/or research studied in your psychology course. You must make reference to the context in your answer. (8 marks)

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# CHAPTER 29 ISSUES AND DEBATES

## LEARNING OBJECTIVES

By the end of this chapter you should be able to describe and evaluate:

- ethical issues in research (animal and human)
- practical issues in the design and implementation of research
- reductionism versus holism when researching human behaviour
- ways of explaining behaviour using different approaches, models or theories
- the issue of psychology as a science
- cultural and gender issues in psychological research
- the role of both nature and nurture in psychology
- an understanding of how psychology has developed over time
- the use of psychology in social control
- the use of psychological knowledge in society
- issues relating to socially sensitive research.

## GETTING STARTED

When research findings are published, they sometimes lead to unexpected outcomes as people use them to support their own agendas. These agendas may be far from those of the psychologists who originally devised and conducted the studies. As you embark on the final part of your course, think about the implications of research in each topic, from A (Social approach) to H (Clinical psychology), for society. Choose a topic and think how society might change as a consequence of research in this area e.g. if we learn that humans have an innate tendency to obey, this could mean people who obey others when ordered to commit crimes are seen as less personally responsible; how might this affect the way such people are treated in the justice system?

## EXAM TIP

In Paper 4 Section E, you will be presented with a twenty-mark extended response question. The command term is typically 'assess' or 'evaluate' but could also be 'to what extent ...?' Generally, there is no extract, but this is not always the case, so be prepared! Whenever there is an extract, the application marks (AO2) will never be worth more than four, so should be 20 per cent of your answer.

Psychologists may be united in their motivation to understand the human mind and behaviour but they have many differing opinions about the best way to go about this and about what really matters. These differences of opinion often relate to issues with important implications for society and are, therefore, hotly debated. In the next section, we shall see how these issues and debates are relevant to theories and studies as well as whole topic areas (or approaches) in psychology. You will have read about many of these issues and debates throughout this book and in Student Book 1, but it is important to revisit them now and think further about how they will be assessed in Paper 4.

As the issues and debates essays are marked out of twenty, you should spend around 25 minutes answering these questions. This is because the whole of Paper 4 is marked out of 96 and you have two hours to complete the paper. This equates to around 1.25 minutes per mark. You should write around 500 words. For questions without an extract, your essay should have more analysis/evaluation than description. You should aim for a ratio of roughly 2:3 – for every two sentences of description, you should have three sentences or a short paragraph of evaluation.

**LINKS**

For more on ethical issues see the Wider Issues and Debates boxes in Student Book 1 on page 56, page 84, page 132, page 161, page 175, page 198, page 202, page 232, and page 273.

**ETHICAL ISSUES IN RESEARCH (ANIMAL AND HUMAN)**

Ethical issues affect psychological research studies conducted across the world. Although the specifics may differ slightly, the basic principles are the same.

**HUMAN RESEARCH**

All participants have the right to be protected from harm and to make their own decisions about whether they wish to participate in research. However, upholding these basic rights can lead to a number of issues, depending on the nature of the research. As you start to review the entire course content in preparation for the synoptic aspects of Paper 4, it is worth remembering that ethical guidelines have emerged over time as psychologists have been criticised for unethical practice. For example, following the Nuremberg war trials in 1947, the Nuremberg Code was developed which stated that humans should never be forced (coerced) to participate in studies against their will and should always be asked to give their informed consent. Later, other guidelines were developed following the Helsinki Declaration in 1964 and the Belmont report in the United States in 1979. The British Psychological Society (BPS) did not publish ethical guidelines until 1985, over thirty years after the American Psychological Association (APA). In 2011, the BPS added additional guidance specifically on human ethics. As you can see, ethical codes of conduct have developed over time, as norms have changed about what is considered acceptable versus unacceptable in different cultures.

**EXAM TIP**

It is easy to confuse ethical guidelines with ethical issues:

- Guidelines are about things that you should consider when working with human participants.
- Issues are about why it is important to consider these matters and why it might be difficult to conduct your research while still being ethical.

Firstly, we need to think deeply about the meaning of harm, be it physical or psychological. Each of us has experienced a unique set of circumstances – people may have had similar experiences but their interpretation of those events will differ depending on their previous experiences. Defining harm is, therefore, very difficult, as circumstances which may seem fairly mundane for one person may lead to anxiety and distress for another. The idea that everyone has the right to give informed consent, and decide if they wish to withdraw, also presents issues. Differing levels of development, either due to age or physical or mental health status may make it difficult for people to make informed decisions. This may mean that other people need to make those decisions for them, e.g. parents and/or guardians, carers and other professionals. People who are being detained, such as asylum seekers or prisoners, may find it especially difficult to give informed consent due to other restrictions on their freedom. People in these situations may not realise that they can make a choice about whether to participate in a research study or not.

Psychological practices have changed over time but for many years, universities and other research centres have assembled ethics committees and/or institutional review boards to ensure that research proposals meet local guidelines for ethical practice. These committees include expert peers who are able to use their experience and judgement to decide whether a proposal can go ahead with or without certain modification. They may ask the researchers to think about alternative ways in which similar data could be collected, for example, using secondary data or carrying out a case study.

**KEY TERM**

**cost-benefit analysis:** a way of reaching a decision about whether a study is ethical or not; costs to participants, (e.g. probability of psychological harm) are weighed against probable benefits to society of the findings

Ethics committees often include members of the public, who are able to give a non-specialist's opinion about how participants might think and feel about the research. These boards have to conduct a **cost-benefit analysis** to weigh the potential harm to participants, in terms of negative thoughts and emotions against the potential benefits to society of improving psychological understanding of the specific aims/hypotheses being tested. One way to think about this is what the costs would be to society of not understanding the topic more fully.

To prepare for ethics questions, you should carefully revise all relevant material including:

- the British Psychological Society (BPS) code of ethics and conduct (2009), including risk management when carrying out research in psychology (see Student Book 1, page 141 and page 268)
- the UNCRC (1989) (see pages 79–80)
- the HCPC guidelines for clinical practitioners (see pages 345–346).

### THINKING LIKE A PSYCHOLOGIST

Invest some time in revisiting the BPS Code of Ethics and Conduct, 2009. You may also like to look at the updated version from 2021. You will also find a document entitled the BPS Code of Human Research Ethics, which is also a useful read. In these documents you will learn more about the four underpinning ethical principles upon which the code is based; respect, competence, responsibility and integrity. To take your studies further, you could read Diana Baumrind's powerful critique of Milgram's obedience research in the 1960s. As you reflect on how ethics have changed over time, think about whether any further changes will be necessary to take account of any changes in society and the ways that psychologists conduct their research.

### ANIMAL RESEARCH

**KEY TERMS**

**sentient:** the ability to experience pleasure and pain; to be consciously aware of sensory information

**speciesism:** the belief that one species is superior to others, e.g. humans are better than non-human animals; this can lead to discrimination including the prioritisation of the needs of one species over others

Animal research is often conducted when it would not be practical or ethical to carry out the research on humans, due to guidelines about protection from harm and coercion. However, many countries have strict guidelines about animal welfare to minimise suffering. Philosophers, including Peter Singer (1975) have long debated the problem created by the argument that research that would be unethical if conducted on humans and should instead be conducted with animals. He uses the term **speciesism** to explain how putting human needs above those of animals is wrong. He explains this as an example of discrimination as animal wellbeing is being treated as less important than human wellbeing.

One specific problem when thinking about animal ethics is that guidance often only applies to animals which are believed to be **sentient**, meaning that they have the ability to experience pleasure and pain (Crook, 2021). However, this relies on human researchers designing studies which are able to demonstrate sentience. As research develops over time, it is possible that animals that were not once believed to be sentient, have now been shown to be so. This would mean that research that once was ethical may no longer be considered so, meaning replications would no longer be possible. For example, in 1993 an amendment was made to the Animals (Scientific Procedures) Act (1986) which meant octopuses were also classed as protected animals and subject to the same protection. In 2013, the Act was revised again to include other similar species such as squid and cuttlefish.

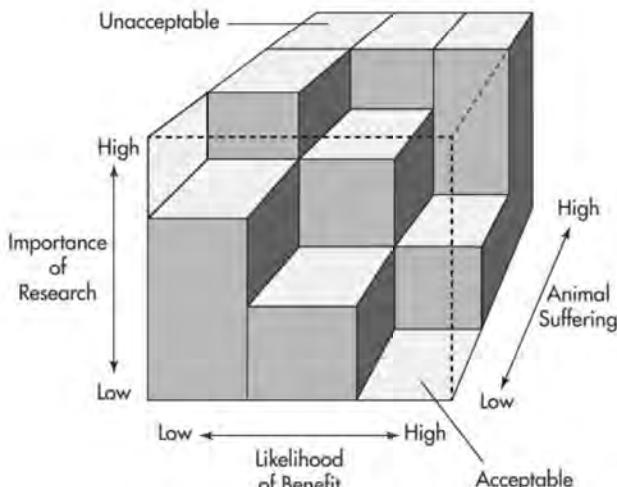
### The Three Rs

In addition to legal restrictions of animal research, researchers should consider three basic principles presented by animal welfare workers Bill Russell and Rex Burch (1959):

- replace – where possible replace animal with humans or use computer models
- reduce – use the smallest possible number of animals in order to achieve statistically meaningful results
- refine – modify procedures to minimise pain and suffering to the animals.

**LINK**

To prepare for ethics questions including animal research, you should carefully revise all relevant material including the Animals (Scientific Procedures) Act (1986), but also in Topic G (see pages 246–256). Even if you studied the Criminological psychology option, you may like to broaden your knowledge of studies including animals by looking at the classic study of Brady (1958) (see pages 231–233) which looks at the development of stomach ulcers due to stress in monkeys. This is an excellent study to use in an issues and debates question due to the contribution to society regarding the importance of reducing stress.



► Figure 29.1 Bateson's decision-making cube evaluates animals research in three key dimensions; certainty of benefits, scientific importance of the research, and degree of animal suffering

**KEY TERMS**

**confirmatory research:** aims to validate theories and/or explanations through rigorous testing of specific hypotheses; typically collects quantitative data

**exploratory research:** helps to gain insight into a topic without testing a specific hypothesis; seeks patterns which can be tested more rigorously in a future study; often collects qualitative data

**Bateson's cube**

A final way of making decisions about the ethics of animal research is to use Partick Bateson's decisioning-making cube (1986). This prompts researchers to think about three key dimensions; the certainty of benefit, the degree of animal suffering and the quality of the research. Each is classified as low, moderate or high. The solid section of the cube represents research considered to be unacceptable and the hollow section represents acceptable research. For example, high animal suffering is never acceptable, however, moderate or low suffering may be considered acceptable if benefits to society and/or importance of research are moderate to high (see Figure 29.1).

However, the problems with this approach are that all three dimensions are difficult to measure objectively and may provoke differing opinions. Importance of the research is especially subjective. This is an important dimension for you to think about with each area of research that you have studied. To what extent can you say that the study has contributed to our understanding? To make these decisions you will need to be able to compare studies with one another. If a study was an improvement on previous studies, it can be considered to have made a contribution to our understanding and be considered as important research. As David Ziegler (2012) states, science is cumulative meaning each set of findings builds upon previous research and should not be viewed in isolation, 'as more discoveries are made and more is learned, we progressively come to a more and more complete understanding ...' (page 585). This suggests that even small discoveries may be important depending on the area of research, especially in new fields.

**PRACTICAL ISSUES IN THE DESIGN AND IMPLEMENTATION OF RESEARCH**

Throughout your course, you will have focused on practical issues when carrying out psychological research. No doubt you came across a wide number of issues when carrying out your practical investigations for each topic. One of the first practical issues to consider is whether the researcher is **exploratory** or **confirmatory**.

**LINK**

For more on these issues, see Student Book 1, page 268.

Exploratory research collects data in new areas where there is no existing theory. The data may be used to construct a theory. Confirmatory research tests hypotheses which are constructed based on an existing theory or explanation. This is often done through experiments, in which an independent variable is manipulated or changed to see whether this has an effect on a dependent variable (DV). If all other variables that might affect the DV are controlled, then cause and effect can be established. This is where practical issues come in those shown in Table 29.1. Researchers must make a number of design decisions or practical choices, for example:

TABLE 29.1: DESIGN CONSIDERATIONS DURING RESEARCH

Design considerations	Issues raised
Type of data	Secondary data might be cheaper and quicker than primary data but it is not possible to collect additional data from the participants as their data may be anonymous.
Control	There may be reasons why it is difficult to control certain variables, particularly if the study is being conducted in a naturalistic setting.
Recruiting participants	It may be necessary to consider cultural and linguistic issues when recruiting from multicultural populations; may need to over-recruit in case people drop-out.
Use of animals	Need sufficient space and expertise to ensure their welfare, e.g. appropriately trained staff to feed them at correct times of day. Needs to choose a species that is appropriate, e.g. human and some rodents specifically have different brain structures in the prefrontal cortices meaning findings relating to executive function may not extrapolate to humans.

Carrying out research in psychology can be a bit like a 'tug of war'. On one hand, we want to achieve the most scientifically credible research that we can, but on the other hand, research must be done within certain practical constraints e.g. within a certain time scale or budget, making best use of the researchers and resources that are readily available



**SKILLS**

ANALYSIS, CRITICAL THINKING

**ACTIVITY 1**

Choose a study from each of the topics that you have studied—this could be classic or contemporary research or one the studies form the content. Think about all the practical issues the researchers might have faced when collecting their data, try to take the researcher's perspective. What challenges would this study have presented? Organise your ideas using the following headings: cause of the issue (C), an explanation (E) of the issue and the outcomes (O) of the issue.

**LINK**

For examples of this issue/debate see Student Book 1, page 26, page 81, page 156, page 167 and page 239. In this book, see page 5, page 166, page 223, page 279 and page 292.

**KEY TERMS**

**law of parsimony:** the best explanation is the one that is the simplest or the one which relies on the fewest assumptions

**levels of analysis:** the focus of a psychological investigation; levels include biological, individual and sociocultural, with further divisions within these levels, e.g. biological may be divided into neurochemical and neuroanatomical

**REDUCTIONISM VERSUS HOLISM**

Reductionism is a key feature of the scientific approach. It involves breaking complex phenomena down into smaller parts and determining how these parts relate to or influence one another. Reductionists believe in the **law of parsimony** or 'Occam's razor'. This means that if there are several explanations, then the best explanation is the one that is the simplest or the one which relies on the fewest assumptions. Reductionists believe that simplicity makes theories easier to test. Generally, this approach is aligned with the use of quantitative, objective data in experimental studies. Through the use of experimental studies, reductionists are able to determine the necessary and/or sufficient conditions that might lead a person to behave in a certain way.

Some psychologists believe that reductionism can lead to oversimplified theories which fail to explain the complexity of human experience. They advocate taking a more holistic approach which explores interactions between different approaches in psychology which all aim to explore human behaviour but at different **levels of analysis**. The holistic approach acknowledges the importance of the social and cultural context in which behaviours take place. They investigate the whole person and the social groups and settings which influence them.

**WAYS OF EXPLAINING BEHAVIOUR USING DIFFERENT APPROACHES, MODELS OR THEORIES**

Generally, this issue/debate will be assessed through the eight-mark key question in Section D. Although you may also face a 20-mark question in which you are given an unseen extract and asked to assess or evaluate explanations drawn from one or more approaches/topics. One way to help prepare for such questions is to think about alternative explanations for some of the behaviour you have learned about throughout your course. For example, you learned about how the learning theories (classical and operant conditioning) can be used to explain phobias and social learning theory as an explanation of aggression. Can you think how the biological or psychodynamic approaches would explain these two behaviours?

**THE ISSUE OF PSYCHOLOGY AS A SCIENCE****LINK**

For examples of this issue, see Student Book 1, pages 89–90, page 110, page 127, pages 137–138 and page 140. In this book, see page 105, page 116, page 140 and page 309.

The word 'science' comes from the Latin word *scientia* meaning knowledge, but today it is taken to mean a systematic attempt to develop knowledge and understanding. This is done by observing events in the world and constructing theories to explain these events. Next, scientists test hypotheses, or statements that would be true, if the theory was correct. Scientists gather evidence for their theories by testing small samples of people to see if they think, feel and behave as expected when placed in certain situations. However, it is only possible to say that one variable has caused an effect on another, if there is a high level of control over any other factors which may affect the outcome of the study. When conducting true experiments, scientists think very carefully about possible confounding variables which might mask or obscure the effects of the independent variable on the dependent variable. This is an example of reductionism, as they are attempting to isolate a single variable and determine whether it affects another variable. Table 29.2 describes six key features of science which relate to scientific research, including theories and research findings.

**LINK**

There is an example on page 86 of poor falsifiability in relation to Erikson's stages of psychosocial development. There is an example of a meta-analysis on page 351 in which researchers included grey literature to avoid publication bias and therefore be more objective. Likewise, the use of funnel plots also try to avoid this bias (see page 324).

TABLE 29.2: FEATURES OF SCIENCE

Feature	Description
Falsifiability	The extent to which a theory can be disconfirmed using research findings; for example, if concepts within a theory are abstract and cannot be measured empirically it is impossible to demonstrate that they do not exist. Also, when a theory includes multiple claims meaning the theory can explain any research findings whatever the outcomes, this means it is not possible to disconfirm the theory.
Empirical evidence	Data that is collected through sensory experience; abstract concepts that are unavailable for physical scrutiny cannot be researched empirically. Attempts to do so are therefore classed as unscientific.
Objectivity	Collecting data in a way that is free from personal bias or impartial; there should be no need for interpretation, one simply describes the evidence available to the senses without further processing.
Replicability	If a scientific study is repeated the same findings will be observed; studies that do not have standardised procedures cannot be repeated making it difficult to determine whether the findings are reliable.
Scepticism	The causes of human behaviour are complex and caused by interactions between many different variables. Scientists, therefore, strive to scrutinise methodologies and analyse rigorously to determine the credibility of research findings. Identifying weaknesses such as errors and biases is essential for science to progress. As scientists recognise that findings may be a product of the way they were measured, they tend to use terms like 'evidence' rather than 'proof', and state that they 'support' a certain explanation or theory rather than 'prove' it.
Provisional	As you can see from the discussion above, scientific findings should always be described in tentative or cautious language. Bold statements should be avoided. This is because scientists view their knowledge as provisional, meaning it may be updated or changed in the future. Also, individual study findings are typically not viewed in isolation, they are seen as part of a larger body of work (literature) on a certain topic.

**THINKING LIKE A PSYCHOLOGIST**

It is worth reflecting at this point on the fact that scientists test null hypotheses. These are statements that propose that the average of the two or more groups or conditions being compared are the same, in other words, the independent variable does not affect the dependent variable. If this is true, when we test a small sample of people from the target population, there should be no difference in their scores. Statistical tests help us to calculate the probability of our results occurring if the null hypothesis was true. If the probability is very low (less than 0.05 or 1 in 20), the null hypothesis is rejected. At this point we remain sceptical, we have not shown that the IV causes the changes in the DV, simply that the likelihood of obtaining this set of results if this was untrue is extremely low. If the probability of our results occurring if the null was true is more than 0.05 (1 in 20) the null is retained, this is because there is insufficient evidence to reject it. This underlines the importance of replication studies.

**LINK**

For examples of these issues, see Student Book 1, page 163. In this book, see page 62, page 180 and page 202.

**CULTURAL AND GENDER ISSUES IN PSYCHOLOGICAL RESEARCH**

An ongoing issue with psychological research is that much of the classic research was conducted by men, on men, in the minority world, i.e. in North America and Europe. This means that the research only explains the experiences of a small sector of the human population. As previously noted above in the section on objectivity, psychological research is a difficult task as humans are motivated to interpret what they see based on previous experiences. These experiences will have taken place within a social and cultural context, which is affected by important aspects of a person's gender and cultural identity.

**CULTURAL ISSUES**

All researchers will have experienced enculturation or the process by which we acquire the beliefs, values and attitudes of the culture in which we initially find ourselves. This means that as researchers it may be difficult to be objective, as what we see is shaped by our own cultural identity.

The term ethnocentrism is used to describe the bias that exists when a theory or research findings only reflect the experiences of people from a certain culture or when the researcher's own culture is seen as typifying 'normal' behaviour meaning anything that does not fit with this is seen as different, and potentially inferior, or even primitive.

When researchers take an **etic** approach to understanding human behaviour they behave as though they are an objective outsider, seeking cultural universals or general laws which explain behaviour in all cultures. They may use ways of measuring behaviour, thoughts and feelings that have been designed in one culture to test people from another culture. This is sometimes described as an imposed etic, in which an idea from one culture is assumed to be relevant to another. This approach is often used in cross-cultural studies, in which one or more cultures are compared. Taking an etic approach may mean findings are less valid as the meanings of behaviour may differ between cultures and these differences may be misinterpreted or ignored.

Researchers who take an **emic** approach are interested in investigating cultures from an insider's perspective. They may use qualitative research methods such as participant observation and unstructured interviews to learn about cultural norms, beliefs and attitudes through immersing themselves, often for an extended period, within the culture of interest. The development of deep and rich understanding of the differences between cultures allows emic researchers to understand observed behaviour within their cultural context, meaning that they are able to understand not only what is happening but why it is happening. This is an approach known as **cultural relativism** which proposes that behaviours should not be viewed in isolation and should be seen as a product of the social and cultural context in which they are exhibited. You have learned about the use of the emic approach where you studied the work of Samanatha Panch in Bolivia.

**LINK**

You may find it helpful to revisit the section on ethnographic field work and Punch (2002) (see page 73).

**LINK**

Even if you did not study anorexia nervosa as your 'other disorder' you might find it helpful to look at the study by Becker et al. (2002) pages 328–331, as this is a good example of the way cultural norms change over time and their effects on behaviour. This shows that psychologists need to pay attention to cultural issues in psychology in order to provide comprehensive theories.

Semi-structured interviews conducted by Tanya Luhrmann revealed cultural differences between people who hear voices in India, Ghana and the United States. What does this tell us about biological theories of schizophrenia?

#### KEY TERMS

**alpha bias:** tendency to over exaggerate differences between men and women and therefore overlook potential similarities

**androcentric:** a theory which explains the behaviour of men better than women due to failure to recognise that men and women experience the world in different ways due to biological and socialisation differences; findings of studies in which the majority of participants were men; bias which occurs when study findings are interpreted from the standpoint of men only

**gynocentric:** a theory which explains the behaviour of women better than men due to failure to recognise that women and men experience the world in different ways due to biological and socialisation differences; findings of studies in which the majority of participants were women; bias which occurs when study findings are interpreted from the standpoint of women only



#### Gender issues

Research which mainly explains the experiences of boys and men may be described as **androcentric**. This may be because the sample included significantly more boys and/or men than girls and/or women or it may be due to using tests that have been primarily designed by or standardised on male samples. Theories developed by men may also be described as androcentric as they may not fully explain the experiences of women which may differ due to differences in expectations of boys and men versus girls and women.

The opposite to androcentric is **gynocentric** which refers to theories which take a feminist perspective and/or research studies which are dominated by girls and women and therefore do not represent the experiences of men and boys. Biological research often explains individual differences in terms of chromosomes which affect levels of different hormones such as testosterone and oestrogen, however, gender differences relating to socialisation may be ignored. For example, children may be treated differently depending on their physical appearance. Differences in socialisation then lead to the development of gender roles, norms, values and expectations, meaning boys and girls may develop differing preferences for certain activities, meaning their skills and personality traits also begin to diversify. This means that gender differences may result from nurture not nature.

#### Alpha and beta bias

Two types of gender bias have been identified which you should watch out for as you revise. Beta bias occurs when researchers minimise gender differences, assuming that there are universal laws to explain human behaviour regardless of a person's gender. This type of bias applies to much of the classic research in psychology which tended to include only male participants with the assumption that the findings would apply equally to women. This bias tends to ignore the critical tendency for men and women to be treated differently in society leading to differing thoughts, feelings and behaviours.

Conversely, **alpha bias** occurs when researchers exaggerate differences between women and men, girls and boys. Researchers may compare the behaviour of these groups with

the expectation that there will be differences. This can lead to artificial results which fail to acknowledge similarities. One problem with this approach is it may justify people being treated differently in society because of their gender e.g. offering different treatments or services, whereas this may be unnecessary and inappropriate.



Research on vervet monkeys has shown that serotonin levels decrease in social situations in which the animals lose social status (Raleigh et al., 1984). Could differential treatment of men and women in society lead to neurochemical differences? What impact might this have on their behaviour?

### Researcher bias

Men and women who participate in research may be treated differently by the researchers. For example, if the researcher is a man he may treat other men differently to women. Likewise, researchers who are women may behave differently with other women than men. This is a potential source of bias in research studies which could reduce validity. This is supported by findings from Rosenthal (1966) who showed that male experimenters were more pleasant, friendly, honest, and encouraging with female participants than with males.

### THINKING LIKE A PSYCHOLOGIST

You may find it interesting to conduct some research to find out more about the ratio of men to women in psychology undergraduate programmes as well as working in psychological research. How do you think this might affect future research findings? How can the discipline ensure that research represents everyone in society ensuring that applications to society do not suit one gender more than another?

### LINK

For examples of this debate, see Student Book 1, page 4, page 97, page 131, page 166, page 179, page 210, page 231 and page 273. In this book, see page 3, page 21, page 93, page 281 and page 306.

## THE ROLE OF BOTH NATURE AND NURTURE IN PSYCHOLOGY

### NURTURE

The debate over the relative contributions of nature and nurture to human behaviour has existed for centuries. For example, British philosopher John Locke described the baby's mind as *tabula rasa* or blank slate. By this he meant that every experience etches its mark on our mind, gradually shaping the person that we become and increasing or decreasing the probability of

**KEY TERMS****biological determinism:**

the idea that human behaviour results from our genetic inheritance

**environmental determinism:**

the idea that human behaviour results from learning experiences within the social and physical environment and is therefore a product of nurture rather than nature; includes classical and operant conditioning and observational learning

**epigenetics:** area of genetic research which explores changes in gene expression which are triggered by environmental experience (e.g. stress, diet) but are not linked to a change in DNA structure/sequencing

**innatism:** the idea that babies come into the world with inborn or hardwired knowledge

**silencing:** the process by which gene expression is inhibited

certain behaviours. This is an example of **environmental determinism** as it suggests that our behaviour is a product of our experiences in the world. The fact that the slate is blank at birth refers to the idea that we have no pre-existing vulnerabilities or disposition. This view, however, dates back further than Locke to philosophers including Aristotle in the fourth century BCE and Ibn Sina in the 1100 CE (Subhani and Osman, 2011).

**NATURE**

Conversely, Plato and Descartes argue in favour of **innatism** which holds that babies come into the world with inborn or hardwired knowledge. Here the idea is that environmental experiences simply help to unlock knowledge that was already present within us. Innatism also holds that behaviour is caused by biological processes and relates to the role of genes, hormones and neurotransmitters. Evolutionary explanations are also an example of innatism as organisms that possess characteristics that help them to survive pass these traits to future generations via genetic inheritance. The concept of **biological determinism** refers to the idea that human behaviour results from our genetic inheritance.

**Diathesis-stress model**

Most psychologists today agree that behaviour is determined by an interaction between nature and nurture. For example, the diathesis-stress model states that people will only develop a psychological disorder if they are genetically predisposed to the disorder (a diathesis or predisposing factor) and then go on to experience a life event or environmental stressor which triggers its development (a precipitating factor).

**NEUROPLASTICITY**

Another example of the interaction of nature and nurture is neuroplasticity which provides a physical demonstration that time invested in practising certain skills such as speaking a second language, playing the piano, juggling, mindfulness or even revising can all lead to increases in grey matter concentration in brain regions associated with the specific skill or pastime.

**Epigenetics**

Research into **epigenetics** demonstrates how environmental experiences including stress and other lifestyle choices can lead to increased gene expression and/or **silencing**. This happens when chemical changes occur on genes which make it easier or more difficult for them to be expressed. Some of these epigenetic changes can be passed from one generation to the next and this is a perfect example of the interaction of genes and environment. Epigenetic research is helping to provide biological explanations of why experiences such as prolonged separations from parents in early life are associated with increased risk of cognitive, social and emotional difficulties in later life. This research is beginning to show that some people may be more genetically susceptible to epigenetic modification than others which also helps to explain individual differences in terms of why certain life events affect some people more than others (Levine et al., 2012).

**Investigating nature and nurture**

Two research methods used to explore the nature and nurture debate in psychology are twin studies and cross-cultural studies.

**LINK**

To help you think about the relative role of nature versus nurture revisit the research methods on page 386 (cross-cultural studies) and in Student Book 1, page 197 (twin studies).

**THE DEVELOPMENT OF PSYCHOLOGY OVER TIME**

Earlier we noted that science is cumulative meaning that discoveries build upon one another to create a body of work, some of which may be contradictory but taken together can give an indication of possible causes of certain behaviours, thoughts and feelings. Gradually, as theories are modified in the light of new findings, psychological knowledge and understanding begins to evolve or change.

The focus of psychological research also changes due to new ways of thinking and technological advances. Initially, early psychologists such as Wilhelm Wundt used a technique

known as introspection to systematically examine their own private mental processes. They used scientific instruments to measure reaction times in research focusing on sensation and perception. However, this approach was abandoned in the first part of the twentieth century. Behaviourists, such as John Watson, claimed that for psychology to become a science, the study of mental events should be rejected in favor studying behaviour, which can be directly observed. Over the next century, the focus of psychologists has changed multiple times. Currently, the biological approach is highly prominent and this is in part due to rapid advances in modern technology which have paved the way for research which was previously impossible, e.g. the use of different types of neuroimaging.

**SKILLS**

ANALYSIS, INITIATIVE

**ACTIVITY 2**

There is a wealth of research into mindfulness, beginning with its application to adults in clinical settings (as a treatment for anxiety and depression), moving into the positive impact on children's social, emotional and cognitive development and then more recently into possible negative effects. Research this topic further online and make a timeline to track how our understanding of this area of psychology has developed over time.

As you revise each area of your course, think about how knowledge has developed in this area over time. One way to do this is to compare the classic and contemporary studies. Even in areas in which the original work now seems very dated, this work is still valuable if it inspired others to conduct research which subsequently helped the field to advance and led to great contributions to society. One such theory would be the multistore model of memory but there are many others. Another excellent example would be the evolution of classification systems for mental health such as the ICD and DSM. There have been several versions of each over the years which reflect current norms regarding normality and abnormality.

**PSYCHOLOGY AND SOCIAL CONTROL****KEY TERM**

**social engineering:** the use of reinforcement to modify behaviour

Social control refers to deliberate attempts to change or regulate people's behaviour. The term **social engineering** was coined by Burrhus F Skinner and refers to the use of reinforcement to modify behaviour. On the one hand this could lead to benefits to the individual, their families and whole communities through encouraging behaviours which lead to improved social harmony and wellbeing. However, social control may also include efforts to limit individual freedom through encouraging conformity with social norms, values, beliefs and rules.

Recently, psychological knowledge has been used to encourage behaviour which would help to limit the spread of the COVID-19 virus including social distancing, mask wearing, compliance with vaccination programs and self-isolating for people who have been exposed to the virus. While interventions to improve health may be seen as a positive use of psychology for social control, it is important to remember that such knowledge could be used to manipulate people to behave in ways that are beneficial to others but not necessarily to the individual.

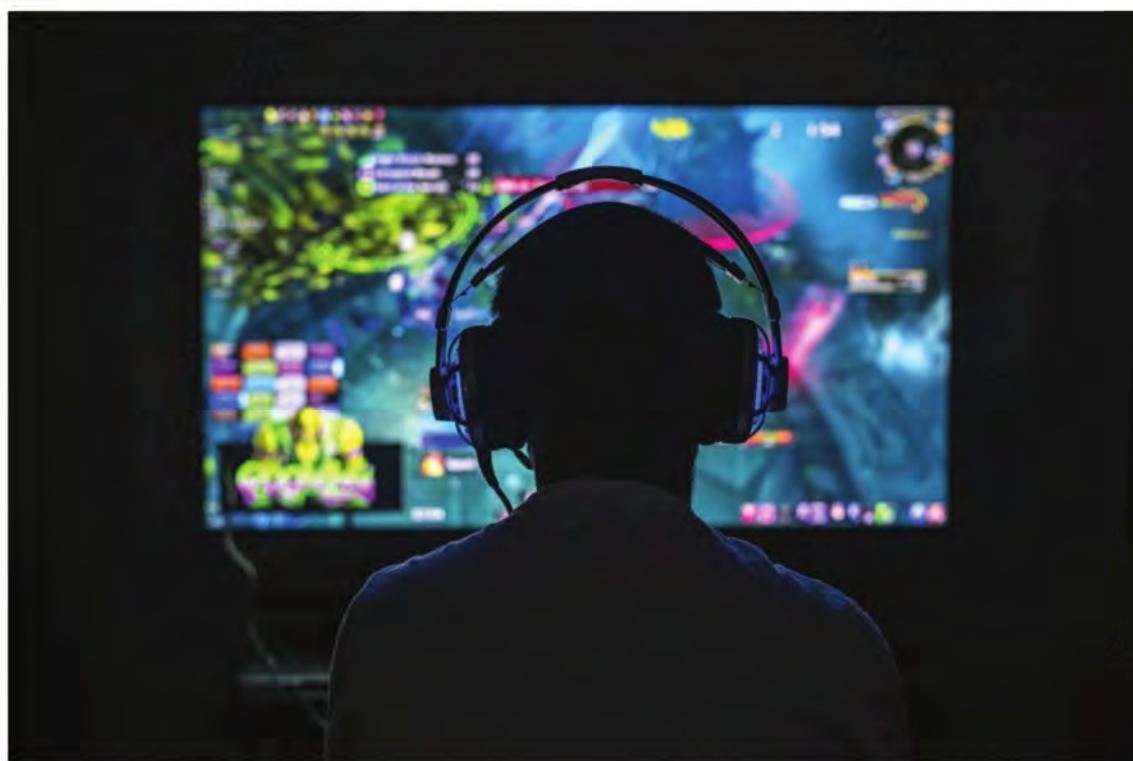
**EXAM TIP**

As you search through your notes and textbooks for examples of social control, always consider how each theory and/or study could be used in different ways e.g. to improve the lives of the individuals and their communities or to bring about changes in behaviour that will benefit other groups of people such as businesses. For example, classical conditioning could be used to help people to overcome phobias through therapies such as systematic desensitisation. However, it could also be used to increase the probability of people purchasing items that they do not need or want, due to advertising campaigns (which associate certain products with fulfilling basic human needs, such as the desire to belong).

As you prepare to answer questions on social control you may like to think further about which approaches and concepts in psychology support the idea that behaviour can be easily controlled and which suggest that attempts to control people may be unsuccessful? Can you think of any ways that psychological knowledge has been used to help people to become more self-aware and therefore more able to resist social control from others?

There are many examples within Clinical psychology which are relevant to this issue/debate. Revisiting your notes on the history of abnormality should reveal how deviation from social norms may result in people being labelled as abnormal and confined to mental health hospitals. Drug treatments for disorders such as schizophrenia and depression have also been used to control people's behaviour. While such therapies may help in terms of reducing distress and improving everyday functioning, they may also be used to control people whose behaviour does not conform to social norms.

Psychological knowledge has been used to support restrictions of media content including television, film and video games which could negatively affect children and young people. How could such restrictions control behaviours such as aggression (see page 96) and eating disorders (see pages 301–313)?



## USE OF PSYCHOLOGICAL KNOWLEDGE IN SOCIETY

### LINK

For examples of the issue, see Student Book 1, page 83, page 88 and page 238. In this book, see page 33, page 120, page 127 and page 149.

In order for psychological research to be deemed ethical, costs to participants are weighted against the potential benefits to society. Also, potential costs to society of not conducting the research are also considered. Ultimately, psychological research is conducted in order to provide evidence to support interventions and policies which will help individuals, their families and communities to live happier, healthier lives in which everyone has the opportunity to reach their potential. Sometimes this goal is expressed as 'ameliorating the human condition'. Throughout your course you will have identified numerous applications to everyday life. Now is the time to critically consider the extent to which these applications are genuinely beneficial to all members of society. Possibly they may serve certain sectors of society better than others, particularly if the supporting evidence is based on non-representative samples or the devices used to assess efficacy are not insensitive to cultural differences.

As you revise each area, think about what we have learned from research in each topic area. Now think how that knowledge could or has been applied. Have these applications had measurable

success? How could we design studies to find out? Are there any areas in which you feel that psychological knowledge has been ignored in society leading to the continuation of practices which lead to negative outcomes for society? How could governments and society be encouraged to pay greater attention to psychological findings? Are there any areas of psychological knowledge which you feel have led to negative effects on society and limited people's opportunities to meet their potential? You may decide that it is helpful to combine some of the information on socially sensitive research in your evaluation and discussion of applications to society.

## SOCIALLY SENSITIVE RESEARCH

### LINK

For examples of the issue, see Student Book 1, page 149, page 204 and page 232. In this book, see page 10, page 19, page 53, page 151, page 300 and page 360.

The term socially sensitive research was coined by Sieber and Stanley (1988) and refers to research findings which may have social consequences either for the participants or for specific social groups that they represent. Such research often focuses on issues relating to people from groups who face social inequality such women, people from cultural and religious minorities, people who are disabled or who have been diagnosed with physical and mental health issues and people whose lifestyles are atypical in other ways, for example travelling communities. Sieber and Stanley (1988) explain that such research often attracts attention from other psychologists, the public and the media. This increases the risk that findings will be misrepresented or used to add credence to certain points of view.

Socially sensitive research needs very careful consideration at every stage given the ethical issues presented by the publication of such findings. Research which provides deterministic explanations of undesirable behaviour are also socially sensitive as such theories remove personal responsibility and fail to acknowledge the role of freewill. Various good examples of socially sensitive research can be found in Developmental psychology. For example, Bowlby's theory could be used to encourage women to stay at home and not return to work until the children are at least of school age due to the potential impact of maternal deprivation. Fathers too are marginalised by developmental research which has failed to fully explore their parenting role.

### EXAM TIP

On page 29, we introduced the CEO technique for structuring paragraphs within an essay. Paragraphs begin by explaining the cause (C) of the issue you are about to discuss. For example, in an essay on socially sensitive research (SSR) you could choose to discuss the classic study from Clinical psychology by Rosenhan (1973) (see pages 315–318). The aspect of this study that makes it socially sensitive is that it aimed to see whether psychiatrists were able to differentiate between sane and insane. This needs to be stated first and then explained (E) with concise and specific knowledge of procedure/findings of the study. This should be followed with an explanation of the reason that the study is socially sensitive, e.g. the study had the potential to undermine confidence in the mental health profession. At this point it is important to elaborate on the possible outcomes (O) or wider implications, e.g. people with mental health issues may not seek support if they lose faith in the system designed to support them and their conditions may deteriorate further; also, people working in the mental health profession may have faced prejudice and antisocial behaviour from the public due to negative media attention following the study. If you are able, you may wish to also insert a competing argument after your basic CEO paragraph. Here you could balance concerns around the specific piece of SSR you have discussed by explaining potential positive outcomes for society that may be gained through carrying out such research and the perils under-researching such issues.

**CHECKPOINT**

1. Which psychologist criticised the ethics of Milgram's study?
2. Which word refers to an animal's ability to feel pleasure and pain?
3. What is the name of the law which supports the ideas of reductionism as a key feature of science?
4. What is meant by empirical evidence?
5. What is the difference between emic and etic?
6. Which term is used to refer to research which does not explain the behaviour of men?
7. What is the name of the explanation which states that we must be exposed to both predisposing and precipitating factors in order to develop certain disorders or mental health issues?
8. Which term was used by Skinner to refer to deliberate effort to use psychological knowledge to change people's behaviour?
9. Can you give one reason why a study might be classed as socially sensitive research?
10. Which goal of psychology is linked to applications to everyday life?

**SKILLS**

ANALYSIS, CRITICAL THINKING

**EXAM PRACTICE**

1. Gloria is observing peer-mentoring sessions in her local primary school. Nine-year-old children are helping six-year-old children to make cookies including measuring the ingredients and following the instructions. Gloria is using a time sampling to record what the children are doing and saying every 30 seconds for ten minutes. She will then classify the behaviour that she has recorded as positive (older child praises the young child) or negative (older child takes over). She decided to study ten pairs of children. Discuss whether Gloria's study can be considered scientific. (8 marks)
2. To what extent is nature more important than nurture in explaining human behaviour? (20 marks)

# GLOSSARY

## acceptance and commitment therapy (ACT)

a type of cognitive behavioural therapy that involves accepting negative emotions and thoughts rather than trying to eliminate them, and commitment to living a valued and worthy life

**accommodation** altering a schema as a reaction to disequilibrium; this happens when a person is exposed to information that challenges their existing schema

**acculturation stress** psychological difficulties experienced by people who have been enculturated into one culture and then also come into contact with another culture

## active emotion-focused coping

active strategies involve intentional efforts to seek emotional support and participate in activities which promote positive emotions, such as journaling, mindfulness, exercise and creative/expressive hobbies (for example, playing an instrument, painting)

**adrenalectomy** surgical removal of the adrenal glands

**adrenocorticotropic hormone (ACTH)** released by the pituitary gland; ACTH stimulates the adrenal glands to produce cortisol

**adverse childhood experiences (ACEs)** potentially traumatic events that occur during infancy through to adolescence

**aetiological validity** the extent to which a disorder has the same cause or causes in different people. Aetiological validity exists when the diagnosis reflects known causes, such as a family history, in a disorder that is known to have a genetic cause

**affectionless psychopathy** an inability to show normal affection,

shame or sense of responsibility for one's actions

**allocentric** prioritisation of group cohesion and harmony over individual goals, needs or preferences; relates to individuals within collectivist cultures; opposite of idiocentric

**alpha bias** tendency to over exaggerate differences between men and women and therefore overlook potential similarities

**amae** a Japanese word used to refer to a sense of closeness and interdependence between mother and child

**amphetamine** a drug that stimulates the central nervous system; its effects include increased activity and energy, as well as appetite suppression and difficulty in sleeping

**amygdala** brain region involved in processing emotions, including formation of emotional memories and regulation of fear response

**anhedonia** inability to find pleasure in previously enjoyed activities

**androcentric** a theory which explains the behaviour of men better than women due to failure to recognise that men and women experience the world in different ways due to biological and socialisation differences; findings of studies in which the majority of participants were men; bias which occurs when study findings are interpreted from the standpoint of men only

**animal euthanasia** intentionally ending a non-human animal's life for practical and/or ethical reasons; sometimes this is done so that an autopsy can be performed and/or to prevent suffering caused by long-term effects of the procedures of the study

**animism** believing that objects (e.g. toys, furniture) are alive and

therefore experience life-like thoughts and feelings; a feature of Piaget's preoperational stage

**anorexia nervosa (AN)** a persistent pattern of restrictive eating or other behaviours aimed at establishing or maintaining abnormally low body weight, typically associated with extreme fear of weight gain (WHO, 2019/2021)

**antagonists** drugs that reduce or weaken the effects of neurotransmitters of the postsynaptic cells by binding to and blocking receptors sites without activating them

**antipsychiatry movement** a group of intellectuals who rejected biological labels, explanations and treatments for mental disorders; the group began challenging the power dynamic between psychiatrists and patients; these ideas were popularised in the 1960s onwards

**anxiety** feelings of tension and worry in the absence of a specific stressor, but associated with worries regarding future events

**appraisal-focusing** a coping strategy which involves re-evaluating a situation in a more objective and optimistic way; there is no attempt to change the situation, only to change your interpretation of the situation, including the increased probability of positive implications/outcomes

**articulation** the clear and precise pronunciation of speech sounds (or placement of fingers/hands) in expressive language (spoken or signed)

**assent** the child's willingness to participate or continue participating in a psychological research study

**assimilation** adding new examples into an existing schema

**atrophy** reduction in the concentration of bodily tissue; in the brain this could

be due to ageing, traumatic brain injury or a neurodegenerative disorder such as Alzheimer's disease

**attachment** a close, emotional, enduring bond between child and caregiver (noun); the process by which these bonds are formed (verb)

**attrition** the tendency for participants to drop out of longitudinal research which can reduce the generalisability of the findings if the final sample is no longer representative of the target population

#### **atypical (second generation)**

**antipsychotics** medication which block dopamine and serotonin receptors, reduce positive and negative symptoms of schizophrenia and have fewer side effects (especially tardive dyskinesia) than typical antipsychotics

#### **autonomic nervous system (ANS)**

controls involuntary, non-conscious movements in structures such as the heart and lungs; it has two parts called the sympathetic branch and the parasympathetic branch

#### **avoidant emotion-focused coping**

passive strategies which minimise or suppress negative emotions, for example distancing yourself from the source of distress, distraction and/or behavioural disengagement, which may involve substance use

**babbling** an early stage of language development in which babies repeat sounds

**basal ganglia** a group of nerve cells near the centre of the brain involved in motor control, executive functions and emotional control

**basic trust** confidence in the reliability/dependability of others; more likely when people behave in ways that are predictable

#### **behavioural**

**disengagement** withdrawing or giving up on active efforts to deal with stressors; can result in emotional detachment

**bench trial** trial by judge only, no jury

**bereavement exclusion** DSM-IV stated that people who have been

bereaved in the past two months should not be diagnosed with depression in an effort to avoid pathologising normal grief

**beta bias** tendency to minimise differences between men and women and therefore overlook potential differences

**bidirectional ambiguity** uncertainty about which (if either) co-variable is the cause of changes in the other co-variable

**binge-purging type** a subtype of anorexia nervosa in which the individual has engaged in binge-purging in the past three months

**binging** the rapid consumption of an excessive quantity of food

**biological determinism** the idea that human behaviour results from our genetic inheritance

**biological treatments** attempts to change the functioning of the brain or other bodily systems which affect behaviour to improve a person's mental health, for example the use of medication (drugs)

**biomarker** a molecule that can be detected in found in bodily fluids (e.g. blood, saliva) or through the collection of other samples (e.g. hair) that indicates normality or abnormality, e.g. metabolites found in blood can be used to measure the breakdown of specific neurotransmitters in the brain

**bipolar disorder** a person diagnosed with bipolar will have experienced one or more manic episodes but will also have experienced one or more depressive episodes

**body mass index (BMI)** a measure of body weight relative to height calculated by dividing a person's weight in kilograms by the square of their height in metres

**bottom-up approach** themes emerge from the text; the researcher does not begin with any preconceived ideas

**brainstem** brain structure which links the spinal cord and the rest of the brain; involved in basic life functions including breathing, heartbeat and reflexes

**bulimia nervosa** an eating disorder in which the main symptoms involve binge eating followed by purging behaviours

**burnout** emotional and physical exhaustion often due to demands of work (school, college or job) and/or caring for children and/or older relatives

**burnout syndrome** a state of physical and mental exhaustion resulting from chronic stress

**cachexia** a serious medical condition caused by extreme weight loss in which bones are visible

**callous-unemotional (CU) traits** uncaring, disregard for others' feelings, lack of empathy, guilt or remorse

**caregiver sensitivity** the extent to which a caregiver is able to pay attention to and interpret the infant's differing behavioural cues (signals)

**caregiving hypothesis** sensitivity and responsiveness of the caregiver is associated with security of attachment in the infant

**catastrophising** irrational exaggeration of potential negative outcomes; one negative thought often triggers a cascade of increasingly catastrophic outcomes

**catatonia** disruption to normal motor behaviour/movement; may include adopting strange postures, becoming rigid and immobile

**centrifuge** a laboratory device that separates components of a liquid using rapid spinning, e.g. blood can be separated into plasma and the heavier blood cells

**cerebral cortex** outer layer of the brain, involved in various complex functions such as perception, language, memory and consciousness

**charismatic** in a religious context, this refers to spiritual gifts or charisma, including spiritual healing

**child guidance clinics** centres offering support, information and therapy to families of children experiencing mental health and/or behavioural issues

**Chinese Tao cognitive therapy (CTCP)**

a culturally relevant form of cognitive behavioural therapy, which incorporates aspects of Tao philosophy and traditional Chinese medicine

**cholesterol** a fatty substance created in the liver but also present in foods made from animals (e.g. meat, eggs)

**classification system** a systematic framework used to organise and categorise information

**clinical interview** the process of evaluating a client by gaining important personal information about them regarding their health

**clinical significance** a reduction in symptoms that reaches the threshold for reliable change and is likely to transfer to measurable improvement in everyday life

**close reading** thorough examination of a text to identify underlying themes and patterns; every phrase is carefully scrutinised to ensure that the researcher has captured all of the meaning conveyed

**cognitive defusion** an ACT technique which involves shifting attention away from the content of negative thoughts and onto the process of thinking. This change of focus is designed to reduce distress and overthinking

**cognitive flexibility** the extent to which a person is able and/or prepared to switch between different perspectives, mental processes or thinking strategies, to be objective and use knowledge in a variety of ways

**cognitive restructuring** the process of identifying and challenging maladaptive/negative thinking patterns and replacing them with more objective and adaptive ones

**cognitive triad** negative or irrational thoughts/beliefs about the self, the world and the future; a key element of Beck's cognitive explanation of depression

**Cohen's kappa** a number between 0 and 1 that represents the degree of agreement between two raters (0 is no agreement, one is perfect agreement);

the number takes into account the degree of agreement that would be expected by chance alone; less than 0.4 is poor agreement, 0.4-0.7 fair to good and 0.75 and over is excellent

**cohort effects** aspects of the behaviour of a group of participants which differ from other groups due to life experiences specific to that particular group, e.g. children who were born during the COVID-19 lockdown, which can reduce internal validity in a cross-sectional study

**comorbid** experiencing symptoms of two or more disorders at the same time

**comorbidity** the presence of more than one disorder in the same person

**compensatory control** a theory which states that when people are unable to control certain aspects of their lives, and are experiencing stress, they may seek opportunities in which they are able to exercise control over their environment

**concordance rate** the probability that if one twin/family member has a certain characteristic (such as schizophrenia) then the other twin/another family member will also have it

**concrete operational stage (7–11 years)** the third of Piaget's stages of cognitive development; the child's understanding of the world is dominated by how things appear from their own perspective (point of view)

**concurrent validity** the same diagnosis is reached using two or more different classification systems to assess the same patient at the same point in time

**conduct disorder** children with this disorder repeatedly violate social and age-appropriate norms, including respect for the rights of other people; behaviours may include lying, stealing and fighting

**confabulated** falsely recalled

**confirmation bias** only paying attention to information which is consistent with previously formed impressions

**confirmatory factor analysis** a statistical technique that helps

to establish the convergent and discriminant validity of a questionnaire

**confirmatory research** aims to validate theories and/or explanations through rigorous testing of specific hypotheses; typically collects quantitative data

**conservation** understanding that quantity does not change unless something is added or removed

**construct validity** the extent to which the researcher has actually measured the intended variable or underlying construct

**content validity** the extent to which a measure (such as a psychometric test) used in a psychological study covers all aspects of whatever it is supposed to be measuring

**contingencies** common factors associated with a specific offence

**coping strategies** conscious and deliberate effort to reduce negative emotions caused by stress, which are changeable depending on the nature of the stressor

**coping style** an individual's habitual way(s) of managing stress; typically they are consistent over time and used to deal with a variety of different types of stressor

**core beliefs** underlying beliefs that make up the cognitive triad; often developed in early childhood, they affect our conscious processing/interpretation of information; cognitive-behavioural therapy aims to reveal, test and ultimately modify these beliefs

**corticosterone** a stress hormone released from the adrenal cortex in non-primates, for example birds and rodents

**cortisol** produced by the adrenal glands; involved in regulating metabolism, immune function and the stress response

**cost-benefit analysis** a way of reaching a decision about whether a study is ethical or not; costs to participants (e.g. probability of psychological harm) are weighed against probable benefits to society of the findings

**countershock phase** the second substage of the alarm reaction in Selye's GAS; the active defence stage which is regulated by release of adrenaline and noradrenaline from the adrenal medulla (fast route), followed by cortisol release from the adrenal cortex (slow route)

**credible** the extent to which a research's methods and analysis/interpretation are trustworthy and believable, including the extent to which it represents the participants' perspectives and experiences

**criminogenic factors** factors associated with the individual that contributed to the criminal behaviour

**critical period** limited time period during which certain experiences are crucial for normal development, especially in forming attachments

**critical period hypothesis** if language acquisition does not begin before the offset (end) of the critical period, the individual will never achieve the same standard of language use as those who develop their skills within the critical time span

**Cronbach's alpha** a statistical measure which allows the researcher to establish internal reliability, or the extent to which different items within a questionnaire, for example, are measuring the same underlying construct/variable

**cultural relativism** understanding a person's behaviour, thoughts or feelings with reference to that person's cultural background rather than being judged by the norms and values of another culture

**cultural tools** culturally transmitted systems which use symbols (e.g. language, mathematics, art) and allow us to share ideas

**cultured cells** cells that have been removed from their natural environment and are grown and maintained outside of the organism in a controlled environment, typically in a laboratory setting

**daily hassles** irritating, frustrating, distressing demands that are a part of everyday life; they require minimal social adjustment but together can cause significant stress

**data saturation** the point at which no further themes emerge from a text

**de novo mutations** genetic alterations that occur spontaneously in an individual and are not inherited from parents

**decentre** to consider all the available information when answering a question or making a decision rather than focusing on just one aspect (e.g. appearance in conservation tasks)

**declarative memories** memories which can be put into words, including episodic and semantic memories; also called explicit memories

**deductive reasoning** a logical process in which specific conclusions are drawn from general principles; moving from a general idea to a specific conclusion

**delinquent** tends to be involved in criminal activity

**delusion** fixed beliefs that conflict with others in the person's community and are resistant to change even in the face of conflicting evidence

**dendritic branching** an example of neuroplasticity in which the branches extending from the cell body of a neuron (dendrites) increase in complexity, reaching out to and forming connections with neighbouring cells

**depression** a mood disorder characterised by prolonged periods of low mood, disruptions to appetite and sleep, indecisiveness, fatigue, lack of motivation and social withdrawal

**depressogenic** an adjective used to describe negative and/or irrational beliefs that are associated with the onset of depression

**despair** negative feelings of regret, disappointment or lack of fulfilment which result from poor resolution of the final psychosocial crisis

**Diagnostic and Statistical Manual of Mental Disorders (DSM)** a classification system published by American Psychiatric Association to facilitate diagnosis of mental and behavioural disorders

**diathesis-stress model** an interactionist explanation of behaviour which states that behaviour results from a genetic predisposition which is only exhibited if a person is exposed to a certain environmental trigger of precipitating factor

**disdain** viewing something or someone as inferior, treating it/them disrespectfully

**disequilibrium** a state of cognitive imbalance which happens when our schemas do not match with our experiences in the world; new information cannot be assimilated without accommodating the schema. Disequilibrium motivates us to learn and change and is the key to cognitive development and progress

**dismissive** an adult attachment style in which the individual minimises the importance of relationships, avoids emotional intimacy, is self-reliant and downplays the role of early attachment experiences

**disorganised behaviour** inconsistent, unpredictable behaviour which may appear silly, purposeless or not suited to the occasion or social context

**disorganised/disordered thinking/speech** the absence of clear connections between thoughts/ideas which makes language-use difficult to follow/understand

**dispositional factors** relatively fixed traits which determine how a person thinks, feels and behaves in a wide range of different situations, for example personality traits like extroversion, aptitude abilities such as non-verbal reasoning

**DNA and histone methylation** epigenetic modifications that influence gene expression by altering the accessibility of the DNA

**dose-response relationship** a positive correlation between the amount of a certain medication or treatment administered and the degree of improvement observed

**downregulation** a reduction in the number of receptor sites on the postsynaptic cell

**drive reduction** the process of fulfilling a biological need (drive state) to decrease discomfort or tension

**drive state** a biological condition, like hunger or thirst, that motivates an organism to take action to satisfy the need

**dummy** an object or device that mimics the external appearance of something real but does not perform the same function, in other words it does not work

**dysfunctional thought record (DTR)** a worksheet used by people receiving CBT to record negative or irrational thoughts that occur between CBT sessions; it helps to identify biases and ways of thinking which can be focused on with the therapist during cognitive restructuring

**effect size** a measure that describes the size of the difference between two groups; in a simple experiment, effect size can be calculated by dividing the difference between the two mean averages by the standard deviation of all scores from both groups/conditions

**effectiveness** the ability of a treatment to reduce the full range of symptoms of a certain disorder under everyday/real-world conditions, which may be affected by problems such as non-compliance (not taking medication properly or failing to turn up for sessions) and other individual differences

**efficacy** the ability of a treatment to reduce the full range of symptoms of a certain disorder under ideal, controlled conditions

**egocentrism** the preoperational child's inability to understand that other people see the world from their own point of view

**electrocardiogram (ECG)** a way of recording heart rate using electrodes attached to the skin

**electromyogram (EMG)** a way of recording electrical activity in the muscles using electrodes attached to the skin

**emaciation** extreme thinness caused by illness or malnutrition

**EMG latency** time in milliseconds before onset of the EMG waveform

**EMG magnitude** the difference between peak EMG (highest level within the 200 ms after the noise) and baseline (level just before response onset)

**emic** an approach which looks at a culture from inside it, rather than applying external judgments

**emotional dysregulation** difficulties managing and controlling behaviour due to strong/overwhelming feelings

**emotional intelligence** the ability to recognise, understand and respond to your own emotions and those of other people

**empathy** ability to understand and feel the emotional states of other people

**empirical** evidence which is acquired directly via the senses as in an observation or experiment and not simply through logical reasoning

**environmental determinism** the idea that human behaviour results from learning experiences within the social and physical environment and is therefore a product of nurture rather than nature; includes classical and operant conditioning and observational learning

**epigenetic effects** changes in gene expression that occur when chemical tags are added to the DNA due to environmental factors or lifestyles choices; the tags make the genes more or less likely to be 'switched on' (expressed) or 'off' (silenced)

**epigenetics** area of genetic research which explores changes in gene expression which are triggered by environmental experience (e.g. stress, diet) but are not linked to change in DNA structure/sequencing

**episodic memory** the ability to recall events from your own life, including aspects such as time and place

**equilibrium** a state of cognitive balance which happens when our schemas match our experiences in the world; all new information can be assimilated and there is no need for accommodation

**ethnocentric** used to describe findings from samples which lack cultural diversity, i.e. all participants are from the same cultural background

**ethnocentrism** theories which can only explain or predict the behaviour of people from one culture; studies which only include participants from one culture or the measurement and/or analysis of data is biased due to assumptions reflect the cultural background of the researchers

**ethnographic fieldwork** learning about the beliefs, values, attitudes and way of life of individuals and communities through observation and participation in the culture, often for an extended period; this type of study typically takes an emic approach

**ethologist** a person who conducts scientific studies of animals in their natural environments

**etic** an approach that involves seeking cultural universals or principles which explain human behaviour regardless of culture; often involves taking an outsider's perspective when carrying out cross-cultural research and using measures designed in one culture to evaluate other cultures (see imposed etic)

**evolutionary environment of adaptedness** the ancient, imagined environment in which our early human ancestors evolved physical and behavioural traits, which allowed them to survive, and are shared with modern humans

**executive functioning** cognitive processes including planning, organising, initiating and completing tasks

**executive monkey** in Brady's study, this was the monkey that was able to control the electric shocks given to both itself and the yoked non-executive monkey by pulling the lever

**experiences of passivity, influence or control** strong subjective experiences of detachment from inner thoughts and feelings, leading to the false belief that thoughts have been implanted by external forces

**exploratory research** helps to gain insight into a topic without testing a specific hypothesis; seeks patterns which can be tested more rigorously in a future study; often collects qualitative data

**expressive language** the words that an infant produces

**external reliability** the extent to which a person's score on a standardised questionnaire or psychometric test at one point in time correlates with the score they obtain when they take the test again in the future

**externalising behaviours** the expression of negative emotions through observable actions including being disruptive, aggressive or defiant

**factor analysis** a statistical technique used to make sense of the relationships between many interconnected variables; it identifies underlying factors (not directly measured) which explain the greatest amount of variance within the data

**falsifiable** whether it is possible or not to disconfirm a theory; theories that are unfalsifiable are unscientific

**feeding and eating disorder** a group of disorders in which the primary symptoms are abnormal eating behaviour and negative attitudes towards food, eating and body shape and size

**fight or flight** a physiological and psychological response triggered by the release of stress hormones, preparing the body to confront or escape from a perceived threat or danger

**file drawer effect** studies in which the null hypothesis is retained do not get selected for publication, meaning published literature appears more supportive of certain theories/concepts than may actually be the case

**fistula** an artificial opening created in the abdominal and stomach walls through which the contents of the stomach can be sampled

**flashbulb memories** vivid, detailed and long-lasting recollections of significant and/or emotional events;

people are often highly confident that these memories are accurate

**flat/blunted affect** reduction in or total absence of emotional expression; the person may show neutral/limited facial expression and flat tone of voice; failure to respond emotionally e.g. laugh/cry

**forensic psychologist** a psychologist who specialises in working with offenders. They will apply psychological theory to criminal investigation, understanding psychological problems associated with criminal behaviour and the treatment of those who have committed offences

**foster care** children who cannot live with their biological families are cared for in a private family home by foster carers

**funnel plot** a graph used to identify publication bias in a meta-analysis; effect size is plotted on the horizontal axis and sample size on the vertical axis. A symmetrical inverted funnel indicates no publication bias whereas an asymmetrical funnel indicates bias

**gene expression** the process by which information from a gene is used to create specific proteins

**generalised anxiety disorder (GAD)** intense, persistent and unreasonable anxiety that is experienced almost every day, for several months; symptoms can be physical, such as aches and pains; behavioural, for instance fidgeting; emotional, for example nervousness and/or cognitive, for instance easily distracted

**generativity** the need to nurture and guide the next generation

**genome-wide association studies (GWAS)** a research method in which the whole genome of people with and without a certain disorder are compared to identify the frequency of certain alleles which may increase the risk of developing the condition of interest

**glucocorticoid** a type of hormone, such as cortisol, involved in metabolism, immune response regulation and the stress response

**glycaemic control** maintaining healthy blood sugar levels, which is particularly important in the management of diabetes

**grey literature** studies which have not been published in a peer reviewed journal, i.e. conference papers (articles about presentations presented at large professional meetings), PhD theses (work completed for a postgraduate degree)

**gynocentric** a theory which explains the behaviour of women better than men due to failure to recognise that women and men experience the world in different ways due to biological and socialisation differences; findings of studies in which the majority of participants were women; bias which occurs when study findings are interpreted from the standpoint of women only

**hallucinations** sensory experiences in the absence of any external stimuli

**hemorrhagic ulcers** bleeding ulcers which can be life-threatening

**heritable** the extent to which physical or psychological traits can be transmitted from biological parents to their offspring via genes

**holophrase** a single word used to communicate a complete thought or complex idea

**homeostasis** an internal state of balance within the body which ensures optimal conditions for normal bodily functioning; following a stress response, the body will attempt to return to this state

**hydrocortisone** an artificial form of cortisol commonly used in medicine to treat inflammation, allergies and autoimmune disorders

**hyperactivity** excessive energy which leads to impulsivity, restlessness, difficulties on focusing attention and concentrating on tasks

**hyperglycemia** high blood sugar

**hypersomnia** sleeping more than usual

**hypervigilance** heightened alertness and sensitivity to potential threats in your surroundings

**hypocortisolism** a condition characterised by abnormally low levels of cortisol; it can result from dysfunction in the adrenal glands or disruptions in the HPA axis, leading to various symptoms related to cortisol deficiency

**hypophysectomy** surgical removal of the pituitary gland

**hyponatraemia** dangerously low sodium levels; symptoms include nausea, headache, confusion, seizures, and, in extreme cases, it can lead to a coma or death

**hyposomnia** sleeping less than usual

**Hypothalamic-Pituitary-Adrenal (HPA) axis** a complex neuroendocrine system that regulates the stress response, involving the hypothalamus, pituitary gland and adrenal glands

**hypothalamus** a brain region that regulates a wide range of physiological processes (including sleep-wake cycle, stress, hunger/thirst), and links the nervous and endocrine systems

**hypothetico-deductive reasoning** a scientific method that involves forming hypotheses, experimental testing, drawing logical conclusions and modifying theories

**identity** subjective sense of self including how a person would describe and evaluate themselves

**idiocentric** prioritisation of individual goals, values and preferences over those of the group; relates to individuals within an individualistic culture; opposite of allocentric

**imaginary play** pretend or make-believe activity in which individuals create fictional or fantasy situations; typically seen in children from about three years of age

**implicit bias** a positive or negative mental attitude towards a person, thing, or group that a person holds at an unconscious level

**imposed etic** concepts, theories and/or testing paradigms developed in one culture are used to understand behaviour of people in another culture

**imprinting** rapid and lasting attachment to a specific object or person, often observed in animals shortly after birth

**in vitro** processes or experiments conducted outside a living organism, typically in a laboratory setting

**in-group** a group to which we have membership

**in-text citations** a way of acknowledging the original author/source of an idea presented within a piece of academic writing; the original author's name and the publication date are presented in brackets within the main body of the essay, paper or chapter directly after the first mention of the idea/research

**incentives** rewards that increase the probability of certain behaviours being imitated

**inductive** theory emerges from the data

**inertia** a passive state in which nothing seems to matter that can develop into feelings of inadequacy and inferiority

**inhibition** a state in which the child fails to act on their impulses due to fear of consequences

**initiative** the ability to control and direct one's own behaviour and that of others

**innatism** the idea that babies come into the world with inborn or hardwired knowledge

**inner speech** internal/silent form of verbal thought that becomes a critical tool for self-regulation and higher cognitive functions

**integrity** positive feelings of completeness, fulfilment and acceptance of one's life resulting from successful resolution of the final psychosocial crisis

**intention-to-treat (ITT)**

**analysis** data is analysed even if the participant did not finish the treatment programme or did not engage with all aspects as this is more authentic to real-world situations

**internal reliability** the extent to which items in a standardised questionnaire or

psychometric test correlate with each other, indicating they are measuring different aspects of the same underlying factor

**internal working model** a cognitive schema or template, developed in infancy, which guides our expectations about future relationships

**internalising behaviours** negative emotions are directed inward and include anxiety, depression, or social withdrawal

**International Classification of Diseases (ICD)** a globally recognised and widely used classification system including both physical illnesses and health problems and mental and behavioural disorders

**internet-mediated research (IRM)** Any research that takes place online, e.g. communicating with participants via online questionnaire and virtual interviews, or involves the analysis from online sources, e.g. social media

**interview schedule** a list of predetermined questions that will be used in the interview

**intolerance of uncertainty** individuals find it challenging to cope with ambiguous or uncertain situations, often leading to heightened anxiety or stress

**invisible support** practical or emotional help from others which has a positive impact without the person realising

**joint attention** shared focus between individuals on an object or event

**Language Acquisition Device (LAD)** an innate cognitive mechanism that allows humans to acquire language skills

**Language Acquisition Support System (LASS)** social interaction and linguistic input that promotes and encourages a child's language development

**latent content** implicit or underlying meanings and insights within the text; these may reflect the participants' or authors' assumptions; identifying the latent content requires interpretation

and is therefore more subjective and less reliable than the analysis of manifest content

**law of parsimony** the best explanation is the one that is the simplest or the one which relies on the fewest assumptions

**laxatives** medications used to regulate and encourage bowel movements

**levels of analysis** the focus of a psychological investigation; levels include biological, individual and sociocultural, with further divisions within these levels, e.g. biological may be divided into neurochemical and neuroanatomical

**life change unit (LCU)** a way of quantifying the intensity of a life event in terms of the amount of social readjustment required in order to cope; the higher the LCU score, the greater the necessary readjustment due and the more intense the stress

**limbic system** an interconnected set of brain structures involved in learning, memory, emotion regulation and motivation; key structures include the hypothalamus, hippocampus and amygdala

**linkage studies** a method which aims to identify chromosomal regions linked to specific disorders; genomes of biological relatives with the same disorder are compared to see whether they share specific genetic markers

**literature review** a critical summary of the existing research findings on a specific topic

**lived experience** unique insight gained through first-hand/direct experience of a certain set of personal experiences

**logistic regression** a statistical analysis that examines the relationship between the dependent variable and the independent variables being investigated, and calculates the probability of them being related

**losing face** 'facework' refers to behaviours (e.g. tact, politeness, diplomacy) employed in social situations to preserve the dignity (face) of oneself and others; 'loss of face' may occur if cultural norms are violated

**magnetic resonance imaging (MRI)** a technique for creating structural scans with high spatial resolution using powerful magnetic fields and radio wave frequencies

**maintenance doses** an ongoing, but usually lower, dose of a medication taken to avoid relapse when symptoms have improved

**major histocompatibility complex (MHC)** a group of genes that code for proteins that are critical to the correct functioning of the immune system

**majority world** regions or countries occupied by the majority of the world's population, e.g. many countries in Africa, Asia, and South and Central America

**maladaptive** an adaptation which is not helpful in some instances. Maladaptive behaviour may be unhelpful and cause negative emotions

**maladaptive thoughts** unhelpful thinking patterns which trigger negative emotions and behaviours

**mania** an episode of at least one week characterised by intense elevated mood, energy and activity including impulsivity, irritability, racing thoughts and decreased need for sleep

**manifest content** what the text actually says, e.g. the words and phrases which the researcher reads and tallies

**maternal deprivation** the absence of a person who can meet the infant's needs in a sensitive, responsive and loving way

**maturity** biological changes that occur as we get older

**mean length of utterance (MLU)** the average number of words used when a person speaks

**medical model** the biological approach to understanding and treating abnormal behaviour through identifying symptoms and making specific diagnoses, which lead to biological treatments such as the use of drugs or surgery

**meditation** a technique that encourages focused attention or relaxation and can be used to achieve a state of mindfulness

**mesocortical pathway** a dopamine pathway associated with motivation and emotion

**mesolimbic pathway** a dopamine pathway associated with reward and pleasure, and often linked with addictive behaviours

**mind reading** believing that you know what others are thinking, often attributing negative thoughts or judgements to them with insufficient evidence

**mindfulness** awareness that arises through non-judgmentally and deliberately paying attention to the present moment (Kabat-Zinn, 1994)

**minority world** regions or countries occupied by a minority of the world's population, e.g. North America, Europe, and parts of Oceania

**mock jury** a study involving participants experiencing a trial using a video or transcript, upon which the participant comes to a verdict about the defendant on trial

**mode of action** the way that a drug brings about its effect

**moderated** if the relationship between two variables is moderated by another variable, it means the direction or strength of the relationship change is dependent on the moderator; in other words, if a relationship is mediated by another variable, this means that the mediator causes changes in the other two variables

**monoamine depletion hypothesis** a biological explanation which states that depression is caused by low levels of neurotransmitters including serotonin and noradrenaline

**monotropy** a clear preference for one (mono) primary caregiver, leading the infant to seek proximity with this person (tropism)

**more knowledgeable other (MKO)** a person who possesses a higher level of knowledge or skill who is able to guide and support a learner within their ZPD

**morpheme** the smallest unit of meaning within a language, these can be words or parts of words which add

meaning such as word endings (e.g. adding '-ed' for past tense)

**motherese/parentese/infant-directed speech (IDS)** a melodic and simplified style of speech used by adults with infants and young children; includes high pitch, slow delivery and hyper-articulation (over-emphasis)

**mutuality** the extent to which the parent and child accept and seek the other's involvement in a joint activity, work together, give and receive affection and maintain proximity

**negative (type 2) symptoms** symptoms that mean the person has 'lost' an element of normal functioning

**negative appraisal** a pessimistic interpretation of a situation which emphasises unfavourable, threatening or harmful implications, and minimises the possibility of favourable outcomes; typically leads to negative emotions or stress

**negative feedback loop** a self-regulating system in which the end product helps to reduce or inhibit the initial stage of the process

**neurodegenerative disorder** a condition in which nerve cells (neurons) become increasingly damaged; symptoms include difficulties in cognition and movement

**neurodiversity** natural variations in the way that the human brain works, including autism, dyslexia, ADHD

**neuroplastic changes** the brain's ability to change and adapt as a result of age and experience; involves reorganisation of neural networks through the strengthening and weakening of synaptic connections

**neuroplasticity** the brain's ability to re-organise itself by forming new neural connections throughout life

**neuroticism** a relatively fixed personality trait which describes the tendency to feel overwhelmed by negative emotions and to perceive situations as threats

**non-compliance** not following professional/medical advice, e.g. failing to take medication as directed

**noradrenaline** unlike adrenaline, low levels of this hormone circulate constantly but increase rapidly when an organism is faced with a stressor; it increases blood pressure by narrowing blood vessels

**norm of reciprocity** the expectation that favours, gifts and offers of help, for example, will be returned

**object permanence** understanding that objects still exist even when they cannot be seen; this knowledge relies on the ability to create a mental representation of the object

**one-way mirror** a piece of glass that looks like a mirror from one side but can be looked through like a window from the other

**out-group** a group to which we do not have membership

**outpatient care** hospital treatment and/or support that does not require the patient to be admitted (stay overnight)

**over-extension** being over-committed or having more to do than is manageable; a cause of stress

**paradigm** a widely accepted framework of theories and methods which guide research within a specific field

**peer tutoring** learners of similar abilities support each other to progress within their ZPD by working together and supporting each other

**percentile** a value which indicates the proportion of the population who scored lower than the participant on a given item, e.g. the 80<sup>th</sup> percentile for intelligence would mean that the participant scored higher than 80 per cent of the population

**permissive amine hypothesis** a revised version of the monoamine depletion hypothesis which states the depression is caused by low levels of serotonin leading to dysregulation of noradrenaline

**personality disorder** an enduring pattern of thoughts, feelings and behaviours which impair a person's functioning in everyday life; these traits are relatively fixed and do not appear in

episodes as with depression and mania; subtypes include paranoid, narcissistic and dependent

**phoneme** any speech sound (e.g. /p/ or /b/) that cannot be broken down into smaller parts and differentiates meaning when combined with other speech sounds, e.g. p/in versus b/in

**phonological awareness** recognition and manipulation of sounds within a spoken language

**polygenic** traits or conditions that are influenced by multiple genes each of which fractionally increases the risk of developing a certain phenotype

**positive reappraisal** a more objective re-interpretation or re-evaluation of a situation previously seen in a more negative light; a recognition of possible positive implications/outcomes which helps to reduce stress and increase positive emotions

**positive symptom** the presence of abnormal ways of thinking or behaving, e.g. hallucinations

**positive techniques** activities or strategies that reduce stress and promote well-being by increasing optimism and positive emotions

**post-traumatic stress disorder (PTSD)** flashbacks, nightmares and severe anxiety triggered by experiencing, or exposure to, a traumatic event

**prazosin** an adrenaline receptor antagonist used in the biological treatment of PTSD

**preintellectual speech** early, shared communicative expressions of children before the development of fully internalised language

**premenstrual dysphoric disorder (PDD)** a mood disorder characterised by episodes of depression and/or anxiety in the week before monthly menstruation which improve following menstruation onset; symptoms are severe enough to impair daily functioning

**preoccupied** an intense adult attachment style in which individuals are highly dependent on their partners and have a high need for connection with and reassurance from others

**preoperational stage (2–7 years)** the second stage of Piaget's stages of cognitive development; the child can use symbols and cannot think logically; understanding of the world is dominated by how things appear from their own perspective (point of view)

**pretend (imaginative/make-believe) play** recreational activity involving the creation of fictional or fantasy scenarios

**primary caregiver** when discussing a specific child, the primary caregiver is the person who looks after the child (for example, feeding, bathing, playing); they are usually also the child's primary attachment figure, but not always

**private speech** external/audible utterances which aid the child's thinking and problem-solving; talking to themselves while doing a task

**privation** failure to form an attachment within the critical period

**pro-anorexia forums/websites** online communities that promote anorexia nervosa as a lifestyle choice and provide a platform for users to share weight loss techniques

**problem-focused coping strategies** stress management strategies that involve eliminating the stressor or decreasing its impact

**prognosis** the anticipated course and outcome of a mental health condition, including the likelihood of recovery, improvement

**prospective research** a longitudinal study in which a group of participants are monitored over time, and comparisons are made between data collected at the beginning of the study and at or more time points in the future

**pseudonym** alternative or fictional names used to refer to specific research participants in published papers about a study; this is done to protect the participants' right to anonymity and thereby help to make the study more ethical

**pseudopatients** people who pretended to be hearing voices to gain admission to mental health hospitals

**psychiatrist** medically trained doctor specialising in the diagnosis, treatment and prevention of mental and behavioural disorders

**psychoeducation** provides individuals and families with information about well-being, mental health, coping strategies and treatment options; can empower people to manage challenges and make informed decisions

**psychogenic explanations** explanations for mental disorders which focus on psychological (mental) rather than biological causes

**psychological (case) formulation** an analysis of a convicted offender, by looking at their relationships, biological and social circumstances, life events, and how they have interpreted the events that have happened to them

**psychosocial crises** internal conflicts that characterise Erikson's eight psychosocial stages; individuals must resolve these crises to develop virtues which allow them to successfully progress into the next stage of development

**publication bias** journals are less likely to publish articles which do not have statistically significant findings

**purging** intentional behaviours which serve to remove food or calories from the body including self-induced vomiting, misuse of laxatives or excessive exercise

**randomised control trial** an experimental design used in clinical trials to test the efficacy of new treatments and interventions; participants are randomly allocated to the experimental group, who receive the new treatment or a control group who either receive a placebo/sham treatment or standard treatment

### Reactive Attachment

**Disorder** children with this diagnosis do not seek or respond to comfort; they rarely show positive emotions, are limited in their social/emotional responsiveness to others and may be irritable, sad or fearful when interacting with caregivers

**receptive language** the words that an infant understands

**receptor sensitivity hypothesis** a biological explanation of depression which suggests the cause of this disorder is a change in the sensitivity of postsynaptic receptors in brain regions relating to mood

**recidivism** rate of reoffending

**reconstructive hypothesis** memory for an event when the information supplied after the event merges with the information obtained from witnessing the event

**reliable change (RC)** a level of improvement on a psychometric test that suggests that the change is not simply due to random variation but is a real outcome of the treatment/intervention

**remission** a period of time when a person who had previously been diagnosed with a disorder experiences a significant reduction or absence of symptoms

**replicability** the ability to repeat a study because the procedure is detailed, highly standardised and the researchers have made the original materials available; this term can also be used to describe study findings which have been shown to be consistent (the same) when the studies have been repeated

**responsiveness** a caregiver's ability to quickly and sensitively react to an infant's attempts to communicate their needs

**restraint stress** psychological and physiological stress resulting from physical confinement, often used in experiments to study stress responses and their effects on health

**restricting type** a subtype of anorexia nervosa in which the individual has not engaged in binge-purging in the past three months

**retrospective** using historical information and existing records (secondary data)

**reversibility** changes do not have to be permanent; things can return to their original state

**rumination** repetitive and/or obsessive thinking about negative emotions, experiences or problems

**safe base** a secure and reliable source of comfort and support; when an infant is close to their safe base, they will begin to explore their surroundings

**scaffolding** support and guidance provided by the MKO to help a learner to progress with the ZPD

**schema** a mental construct which is used to interpret information based on prior experiences

**schizoaffective disorder** a disorder characterised by both psychotic symptoms and mood disorder symptoms such as depressed mood or mania; symptoms may be simultaneous or alternating

**schizophrenia** a psychotic disorder in which the person experiences disturbances to their thinking, emotions, speech and behaviour including difficulty in differentiating between their own internal thoughts and idea and events and stimuli in the external world

**schizotypal disorder** similar symptoms to schizophrenia; the person may show enduring eccentric or unusual behaviour, appearance, thoughts/beliefs and/or speech; the intensity and duration of symptoms is not sufficient to gain a diagnosis of schizophrenia

**secondary drive** a learned association between a neutral stimulus (NS) and the satisfaction of a primary biological need, which creates a new motivation

**selective reinforcement** only target behaviours (sounds/signs in this case) are rewarded and others are ignored

**selective serotonin reuptake inhibitors (SSRIs)** antidepressant medication that increases extracellular serotonin by binding to 5HT transporter molecules in the presynaptic cell membrane, so that serotonin cannot be pumped back into the presynaptic cell and is therefore still available to bind to receptors on the postsynaptic cell

**self-concept** a mental representation (schema) containing everything we know about who we are as an individual and in relation to others; similar to identity

**self-distancing** moving away from one's own egocentric viewpoint

**self-esteem** a person's sense of self-worth; based on a subjective evaluation of their strengths and limitations, e.g. traits, skills and abilities

**self-fulfilling prophecy** when someone acts in accordance with the label they have been given

**self-regulate** the individual's ability to control their own behaviour through observing and assessing the outcomes of their actions on themselves and others, and through rewarding behaviours that allow them to meet their goals

**self-regulation** the ability to control behaviour, emotions and thoughts and achieve our goals

**sensitive period** flexible time period when environmental influences have a significant impact on development

**sensitive responding** the extent to which the parent shows emotional warmth, awareness of the child's needs and understands their point of view

**sensorimotor stage (0–2 years)** the first stage of Piaget's stages of cognitive development; the infant learns about their environment through the five senses and through moving their body to see what effect this has on their sensory experiences

**sentient** the ability to experience pleasure and pain; to be consciously aware of sensory information

**serotonin syndrome** a potentially fatal condition resulting from an excess of serotonin; symptoms include agitation, confusion, rapid heart rate, dilated pupils, muscle rigidity, tremors, high body temperature, and, in severe cases, it can lead to seizures or loss of consciousness

**shock phase** the first substage of the alarm reaction in Selye's GAS; includes a decrease in body temperature, blood pressure and muscle tone

**side-effects** unintended or undesirable effects of a medication or treatment that occur in addition to its intended therapeutic effects

**silencing** the process by which gene expression is inhibited

**skin conductance** an objective measure of emotional arousal

**social and emotional development** the process of acquiring skills and abilities that help the individual to understand and manage emotions, form and maintain relationships, and interact with others in diverse, social contexts

**social constructivism** an approach which explains how knowledge and understanding is actively built through social interaction with others and therefore emphasises the importance of collaboration and discussion in education

**social control** regulating and/or changing the behaviour of groups of people in order to comply with social norms

**social engineering** the use of reinforcement to modify behaviour

**social inhibition** tendency to limit emotional expression

**social interaction** communication both verbal and non-verbal between individuals in a social context; relies on shared understanding

**social loafing** in large groups there is a tendency for some members to avoid participating

**social media literacy** the extent to which a person has the ability to access, understand, evaluate and interact with social networking sites, includes understanding of the intentions of the individuals and/or organisations that share content on such platforms and the use of algorithms to target users with specific content

**Social Readjustment Rating Scale (SRRS)** also known as the Holmes and Rahe stress scale; designed to measure the amount and duration of change to a person's daily life necessary for them to cope with the range of positive and negative life events they have faced in the last twelve months

**social releasers** innate behaviours that lead to caregiving responses from others, for example, crying, smiling, making eye contact

**social support** the reassurance, comfort and help that a person receives from other people that they know, including friends, family, carers, neighbours and community groups

**social worker** a trained professional who supports individuals, families and communities facing problems that affect their wellbeing, for example, poverty and disability

**socially sensitive research** research findings which may have social consequences either for the participants or for specific social groups that they represent

**socioeconomic status (SES)** a measure that includes income, education and occupation, for example, manual versus professional; it is associated with access to resources and opportunities

**Socratic questioning** a thoughtful method of questioning used in CBT to identify values and beliefs

**somatic symptoms** bodily or physical indications of an illness or disorder

**source monitoring test** a test/questionnaire designed to see whether a person can accurately attribute the original source of information

**speciesism** the belief that one species is superior to others, e.g. humans are better than non-human animals; this can lead to discrimination including the prioritisation of the needs of one species over others

**specifiers** additional descriptors that can be added to a main diagnosis to provide more information about the individual's condition; example include sub-types of a specific disorder or severity (e.g. mild, moderate, severe)

**speech and language therapist** a professional who assesses, diagnoses and treats individuals with difficulties relating to communication and swallowing

**stage theory** an explanation that believes that developmental changes occur in a fixed sequence and are abrupt and discontinuous

**stagnation** failing to find a way to contribute to society

**standards of conduct, performance and ethics** ten basic expectations for the behaviour of health and care professionals

**standards of continuing professional development (CPD)** expectations regarding the need for health and care professionals to learn and develop including updating their knowledge and skills

**standards of proficiency** minimum expectations that must be met in order for practitioners psychologists to register with the Health and Care Professions Council

**startle response** an automatic or involuntary reaction to an unexpected stimulus such as blinking of the eyes or flinching movement

**statistical infrequency definition** a person's behaviour, thoughts and feelings may be classified as abnormal if they are statistically rare (uncommon) within the target population/society

**statistical power** the extent to which an inferential statistical test is likely to produce a significant outcome (meaning the null hypothesis can be rejected) if there is a relationship between the tested variables in the target population

**stress** negative feelings that are triggered when an individual feels that demands placed upon them outweigh their ability to cope

**stress management techniques** behaviours that are undertaken either to prevent stress, including positive techniques such as regular exercise, or to try and reduce the negative physical and psychological effects of stress

**stressor** any stimuli, internal or external, which places demands on the individual that require a physical or psychological change in order to cope

**stroke** a dangerous medical condition in which the blood supply to the brain is reduced; brain cells are deprived of oxygen and nutrients, causing disruption to cognitive functioning

**structured observation** watching and recording behaviour in an artificial

environment, where a situation is manipulated to encourage a behaviour

**sylogism** a logical argument in which a conclusion is drawn based on two premises, e.g. Premise 1: All fruits have seeds. Premise 2: Bananas are fruit. Logical conclusion: Bananas have seeds

**symbolic (representational)**

**play** recreational activity in which using objects or actions are used to represent other things

**symbolic play** a type of play in which children deliberately use one object or toy to represent (symbolise) something else, e.g. a box becomes a boat

**sympathetic adrenal medullary**

**(SAM)** controls the body's immediate stress response (also known as fight or flight), beginning with the release of CRH from the hypothalamus

**syntax** language-specific rules for ordering words and phrases to create grammatically correct sentences

**telegraphic speech** sentences made of verbs and nouns with no grammar words; named after the telegram (an early way of sending electronic messages; senders paid for every character, so messages were extremely brief)

**temperament** biological aspects of personality that are observable in early life including energy levels, emotional responsiveness, willingness to explore and shyness

**temporal validity** the extent to which findings of a study can be applied to people from other time periods/eras; when research has weak temporal validity it may be described as era-bound

**thought diary** a tool used in CBT to generate discussion and examples of thoughts which can be restructured; individuals record and analyse their thoughts, emotions and behaviours to identify and challenge negative or irrational thinking patterns

**thought insertion** the belief that thoughts have not been generated by one's own mind but implanted by external forces

**thought traps** distorted or faulty thinking that contributes to negative emotions and behaviours; includes 'all-or-nothing' ('black and white' thinking), overgeneralisation and personalisation

**three questions technique** a technique used by cognitive behavioural therapists to help reveal underlying negative thoughts/beliefs which may be responsible for depressive symptoms; the patient is asked "What evidence is there for this thought?", "What are the alternatives?" and "So what?"; this technique is part of the process of cognitive restructuring

**thymus** a gland that produces white blood cells, which help the body to fight infection

**top-down approach** analysing a text using a set of predetermined code/themes

**trait anxiety** a measurable individual difference/personality trait in which there is a tendency to worry about yourself and others regardless of the actual circumstances; contrasts with state anxiety which is caused by situational factors rather than being a consistent/fixed dispositional factor

**transformational grammar** rules that help a language learner to turn meaning (deep structure) into a sentence (surface structure) and listen to sentences (surface structure) and understand the meaning (deep structure)

**treatment aetiology fallacy** the mistaken belief that if a treatment is effective, the explanation upon which the treatment is based must provide a valid explanation of the disorder

**treatment as usual (TAU)** standard treatments that are routinely offered to individuals with health problems, physical and/or mental; in research studies, TAU is often used as a control condition to establish a baseline to which experimental treatments and therapies can be compared

**treatment-resistant** a person whose symptoms do not improve after two or more trials of appropriate medication

**trephination** an ancient procedure involving the removal of a piece of

skull bone; thought to have been used to relieve pressure from swelling in the brain but in some cultures it has specific spiritual relevance

**Trier Social Stress Test** a widely used laboratory procedure designed to induce psychological stress in research participants, commonly involving public speaking and mental arithmetic tasks

**tropic hormones** hormones that trigger the release of other hormones

**Type D (disorganised/disoriented)** a fourth infant attachment type characterised by odd, disorganised and conflicting behaviour patterns in the parent's presence (Main and Solomon, 1986)

**Type U (unresolved attachment)** an adult attachment type associated with negative feelings relating to past trauma including loss and abuse

**typical (or first generation)**

**antipsychotic** drugs which bind to dopamine receptors without activating them, used to treat schizophrenia

**tyramine** a substance found in certain food products such as preserved meats and blue (aged) cheeses

**universal** applies or is relevant to all humans despite differences in cultural practices, upbringing and other environmental influences

**universal grammar** linguistic features or rules that are present in all human languages

**unresolved** an adult attachment type associated with negative feelings related to past trauma including loss and abuse

**upregulation** homeostatic mechanism where the brain produces more of something in response to a depletion; a dopamine pathway associated with reward and pleasure, and often linked with addictive behaviours

**uplifts** events that trigger positive emotions including feelings of contentment, peace, satisfaction and/or joy

**utilitarian argument** applied to animal ethics, this perspective would argue that the interests and welfare

of animals should be given equal consideration as humans

**vasopressin** a hormone produced by the hypothalamus and released by the pituitary gland, which helps to regulate water balance, blood pressure and social behaviour in mammals

**vicarious** learning through the consequence of another person's behaviour

**virtues** positive qualities or characteristics that result from the successful resolution of the psychosocial crisis associated with each stage of development

**visual analogue scales (VAS)** a way of measuring subjective responses by asking respondents to place a mark on a horizontal line to indicate their position; the end points of the line usually represent the two extremes, e.g. strongly agree versus strongly disagree

**vocabulary explosion** a time period in which a child rapidly increases the number of words that they understand or are able to use in their own expressive language

**weapon focus** refers to an eyewitness's concentration on a weapon to the exclusion of other details of a crime

**wisdom** deep understanding resulting from both positive and negative life experiences which may provide valuable insights and guidance to others; a virtue achieved through the resolution of the final stage

**withdrawal syndrome** physical and psychological symptoms which arise when a treatment is discontinued, particularly if this is done abruptly or without support from a health care professional

**worry** uncomfortable emotions caused by concerns about future events and/or anticipated outcomes

**yoked** animals are placed together in pairs and one of them has control over what happens to them both; the other animal has no control over what happens to either of them

**zone of proximal development**

**(ZPD)** tasks a learner can perform with the help of a more knowledgeable person but cannot do independently

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